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Environmental
assessment for F
7-1(41)16 Conner
north-south,
Ravalli County,
Montana, control
no. 1281

Montana Department of Transportation

ENVIRONMENTAL ASSESSMENT
FOR

F 7-1(41)16
CONNER NORTH - SOUTH
RAVALLI COUNTY, MONTANA

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ENVIRONMENTAL ASSESSMENT FOR

F 7-1(41)16
CONNER NORTH - SOUTH
RAVALLI COUNTY, MONTANA

Control No. 1281

Submitted Pursuant to

42 U.S.C. 4332(2)(c)
and
Section 2-3-104, 75-1-201, M.C.A.

by the

U. S. Department of Transportation
Federal Highway Administration, Region 8

and the

State of Montana
Department of Transportation
Highways Division - Engineering
Environmental Services

December 1995

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ENVIRONMENTAL ASSESSMENT

for

F 7-1(41)16
CONNER NORTH - SOUTH
Control No. 1281

in

RAVALLI COUNTY, MONTANA

This document is prepared in conformance with MEPA requirements and contains the information required for an Environmental Assessment under the provisions of **ARM 18.2.237(2)** and **18.2.239**. It is also prepared in conformance with NEPA requirements for an Environmental Assessment under **23 CFR 771.119.**

Submitted pursuant to **42 U.S.C. 4332(2)(C)**

by the

U.S. Department of Transportation
Federal Highway Administration

and the

Montana Department of Transportation

Submitted by: Joel M. Date: Dec 22, 1995
Montana Department of Transportation
Environmental Services

Reviewed and Approved
for Distribution: Date: 12-22-95
Federal Highway Administration
Division Administrator

The following persons may be contacted for additional information concerning this document:

Joel M. Marshik, P.E., Manager
Environmental Services
Montana Department of Transportation
2701 Prospect Avenue
PO Box 201001
Helena, MT 59620-1001

Hank Honeywell, Administrator
Region #8, Montana Division
Federal Highway Administration
301 South Park, Drawer #10056
Helena, Montana 59626-0056

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Federal Highway Administration
301 South Park, Drawer #10056
Helena, MT 59626

FLATHEAD CULTURE COMMITTEE
Attn: Tony Incasbola
P.O. Box 418
St. Ignatius, MT 59865

THE CONFEDERATED SALISH & KOOTENAI TRIBES
of THE FLATHEAD NATION
P.O. Box 278
Pablo, MT 59855

MONTANA DEPARTMENT OF ENVIRONMENTAL QUALITY
P.O. Box 20001
Cogswell Building, Room A206
Helena, MT 59620-0901
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1. DESCRIPTION OF THE PROPOSED ACTION

The proposed action consists of full reconstruction and realignment of a portion of U.S. Highway 93 [Primary Route P7 (NHS)] in Ravalli County, MT to current standards of design and safety. The proposed project, known as the "Conner North & South Project", [F 7-1(41)16], will begin at km 26.1± (MP 16.24±) and extend north for 15.5 km (9.64 mi) to km 41.6± (MP 25.88±). The proposed project is primarily a full reconstruction and realignment with a section of resurfacing and a section of widening and resurfacing. The East Fork Bitterroot River Bridge at km 29.1± (MP 18.1±) is only 7.3 m (24 ft) wide and will be replaced with a new bridge to accommodate a 12.0 m (39.4± ft) wide roadway. The general location and project termini are shown in Figure 1.1.

The reconstruction and realignment section of the project will begin at km 26.1± (MP 16.24±) and end at km 37.4± (MP 23.24±). The resurfacing section is from km 37.4± to km 37.6± (MP 23.24± to MP 23.37±). Widening and resurfacing will be on the segment from km 37.6± to km 41.6± (MP 23.37± to MP 25.88±). The proposed project will include two 3.6 m (11.8± ft) wide traffic lanes with 2.4 m (7.9± ft) shoulders for a total paved surface width of 12.0 m (39.4± ft). The Rye Creek bridge is at km 41.7± (MP 25.93±).

U.S. Highway 93 (US 93) was built in 1936 and 1937. The highway from km 37.4± to km 59.3± (MP 23.24± to MP 36.85±) was reconstructed in 1991 under project number RTF-BRF 7-1(36)23, Darby - South. The paved width of that project was at least 12.0 m (39.4± ft) throughout, with the exception of the segment from km 37.6± to 41.6± (MP 23.37± to MP 25.88±). In this 4.0± kilometer (2.51± mile) segment the roadbed was reconstructed wide enough to accomodate a future 12.0 meter (39.4± foot) paved width, but it was paved only 8.5 meters (28 feet) wide. This proposed project (Conner North & South) will resurface and widen this segment to 12.0 meters (39.4± ft). The segment from km 37.4± to km 37.6± (MP 23.24± to MP 23.37±) will be resurfaced only.

Reconstruction will also include bridges, grading, slope flattening, drainage, signing, pavement markings, topsoil, seeding, fencing, mailboxes, approaches, and necessary utility relocation. The new alignment will generally be projected away from the river to avoid encroachment into environmentally sensitive areas.

The proposed road will continue to serve fishing access roads. The current roadway will be maintained to provide assess to all existing facilities including the *Medicine Tree*. There are no parks or campgrounds located in the project corridor. The *Medicine Tree* site near km 33.0 (MP 20.5) is

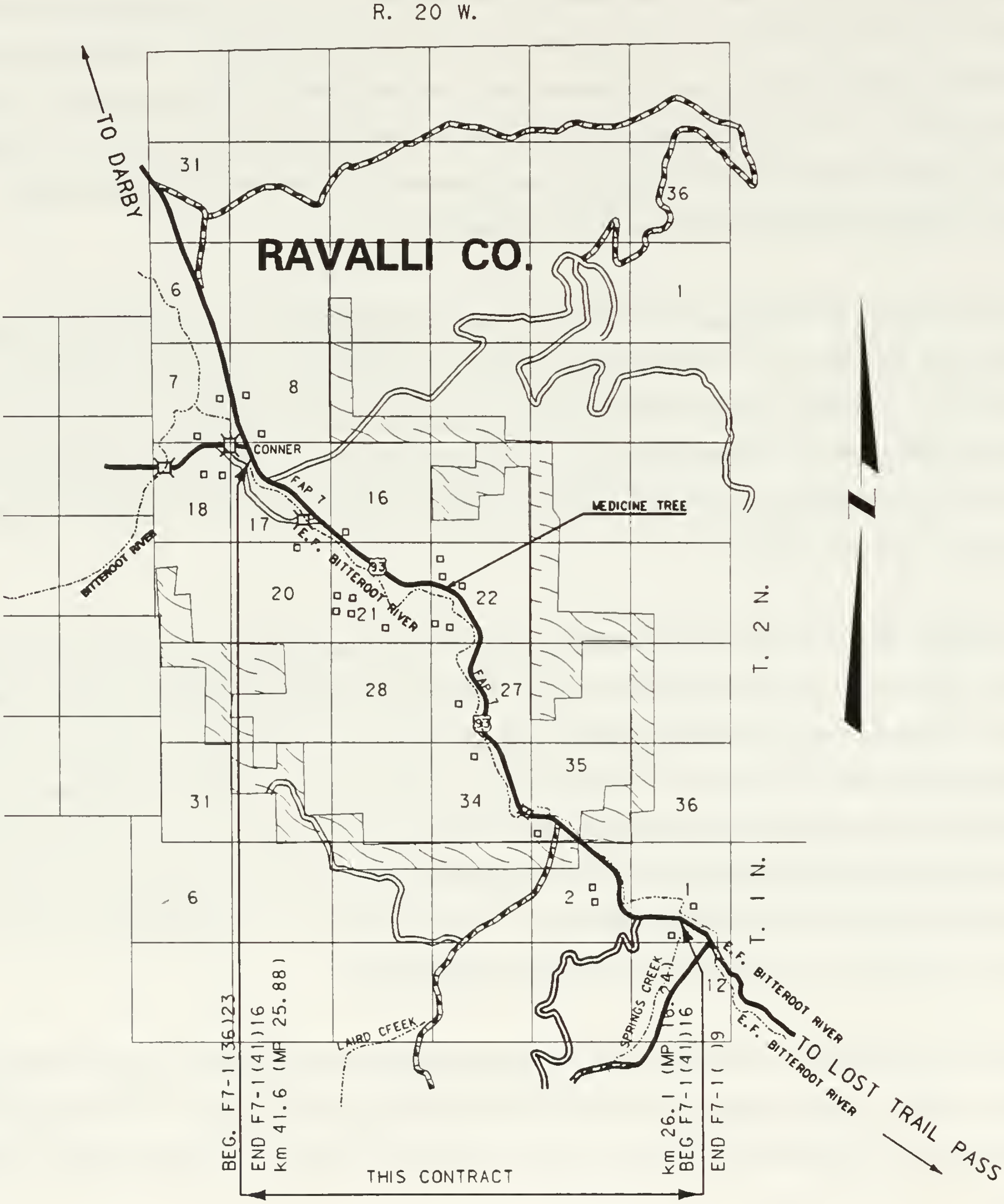

Figure 1.1. Project Location Map. Conner N & S Highway Reconstruction.

considered a Traditional Cultural Property by regional Native American groups and is protected under the American Indian Religious Freedom Act (1978) and the National Historic Preservation Act (1966). The *Medicine Tree* was listed on the National Register of Historic Places in April, 1995. The site boundaries include the 25 acres immediately surrounding the tree east of the East Fork Bitterroot River. Five realignment concepts have been evaluated for the section of roadway in the vicinity of the *Medicine Tree* and are described as *Medicine Tree* Alternatives A through E. Alternative E was selected as the preferred alternative by the Montana Highway Commission in October, 1994.

2. PURPOSE AND NEED

US 93 is functionally classified as a principle arterial and is a part of the National Highway System (NHS) under the Intermodel Surface Transportation Efficiency Act (ISTEA). The route provides a link from southern Idaho, through western Montana, to British Columbia, Canada. It is a vital element contributing to the local and regional economy. Presently, it serves as access to private residences, agricultural and commercial transportation, recreational access, tourist travel, and other general highway uses. This highway will continue to serve an increasing variety of uses now and in the future. This highway is also a designated bike route and upon completion of this proposed project, bike use is expected to increase.

This proposed reconstruction project will consist of upgrading and widening the roadway to current NHS design standards in order to provide a safer highway facility to meet the present and projected increase in traffic demands. The proposed project will increase roadway width, flatten horizontal curves, correct the vertical alignment, increase safety, and provide for higher levels of service as future traffic volumes increase. The bridge over the East Fork Bitterroot River will be replaced with a new structure to accommodate a 12.0 m (39.4± ft) wide roadway. The existing bridge is a 39.6 m (130-foot) long structure built in 1937 with a 7.3 m (24-ft) roadway.

2.1. EXISTING CONDITIONS

The current roadway was built in 1936 and 1937 under the Forest Highway Program with improvements in 1939 and presently has a 7.3 m (24 ft) paved surface that is considerably narrower than the 12.0 meter (39.4± ft) design standard for this NHS roadway. This almost 60 year old highway is cracking, has rough areas due to patching and has minimal shoulders. The existing horizontal alignment includes 16 horizontal curves, of which four do not meet the criteria for a 80 km/hr (50 mph) design speed for this proposed project. The vertical alignment includes 19 curves that all meet the stopping sight distance for the 80 km/hr (50 mph) design. The bridge at km 29.1± (MP 18.1±) had a structural sufficiency rating of 49.6% in 1993. The MDT Bridge Bureau's INVENTORY AND STRUCTURAL SUFFICIENCY RATING lists any bridge rating of less than 50% as being structurally deficient and eligible for replacement.

The proposed reconstruction project consists of upgrading and widening the roadway and replacing a bridge to provide a safer highway facility to meet the present and projected increase in traffic demands. The roadway will be fully reconstructed to meet an 80 km/hr (50 mph) design speed standard, consistent with this facility's classification and the mountainous terrain at this location. The vertical alignment as currently designed is characteristic of rolling terrain (which requires a 100 km/hr (62 mph) design speed). However, to achieve the relatively flat grades of rolling terrain requires a number of horizontal curves designed to avoid the river and to minimize excavation into the adjacent mountainside. The proposed horizontal alignment includes thirteen curves (located throughout the project) with design speeds equal to or greater than 80 km/hr (50 mph), and less than 100 km/hr (62 mph). The adjacent mountainous terrain is the controlling factor which limits the design speed of the horizontal alignment which can realistically be achieved. Therefore, a 80 km/hr (50 mph) design speed is appropriate.

Over this nine mile section, road paving maintenance (crack sealing, guardrail, patching, etc.) was reported to be approximately $15,000 per year (or $1,670 per mile averaged over the last 3 years) for this section of US 93, which is slightly higher than average. This maintenance does not include snow plowing, sanding, signing or other maintenance items. This road is a combination of old and new patches, and paving maintenance is predicted to increase substantially in the near future just to "keep it together".

2.2. Increased Traffic Demand

The proposed project area is on a section of US 93 serving the Bitterroot Valley and Missoula urban area. This project is south of Hamilton, a small bedroom community that is experiencing rapid growth -- a reflection of what is happening in the entire western portion of Montana. The proposed project will increase roadway width, flatten horizontal curves, increase safety, establish greater vehicle recovery area and provide for higher levels of service as future traffic volumes increase. The present and predicted average daily traffic volumes are summarized in Table 2.1. Driving comfort, safety and the ability to transport the projected traffic will depend, in part, on road design continuity of this facility and related projects.

TABLE 2.1
Present and Predicted Traffic
Volumes and Other Traffic Statistics

1993 ADT = 2038 (Present Average Daily Traffic (ADT))
1998 ADT = 2339
2018 ADT = 4656 (Design Year Traffic)
DHV = 493 (Design Hourly Volume)
D = 55-45% (Directional Distribution)
T = 10.4% (Trucks, Medium and Heavy)
All T = 41.6% (All Trucks)
18 kip EAL = 172.90 (Equivalent Axle Loads)

Level of Service (LOS) is a comparison of how well the available capacity of a highway matches with the demand placed on it. This performance is graded in levels A through F, much as a student's performance in school is graded. Montana Department of Transporation (MDT) has design guidelines for establishing Level of Service for principal arterials. In the design year, a principal arterial in rolling terrain should provide LOS B [average travel speeds of 88 km/hr (55 mph)]. In mountainous terrain, LOS C [average travel speed of 84 km/hr (52 mph)] should be provided. A capacity analysis of the proposed two-lane facility indicated the maximum service flow rate in the design year (2018) will be 542 vehicles per hour (vph), which is on the high end of the LOS C range, close to the LOS D [approaching unstable flow, with average travel speeds of 80 km/hr (50 mph)]. The "no-build" alternative would likely result in LOS D (or lower) in the design year, due primarily to the substantially higher traffic volumes.

2.3. TRAFFIC SAFETY AND ACCIDENT CLUSTERS

This proposed project will increase sight distance and widen shoulders, giving motorists the opportunity to avoid collisions. The reconstruction will also increase curve radii and improve approaches so large commercial vehicles can enter and exit the road safely. These improvements will bring this section of US 93 up to current design safety standards and thereby reduce the accident rate on this section of the highway.

Investigated accidents were analyzed to identify high accident locations, and accident trends and accident characteristics. Accident analysis reports were reviewed to identify traffic hazard locations and primary accident characteristics. The accident history for the period January 1, 1984 to December 31, 1993 is:

- there were a total of 94 accidents, including;
- 2 fatal accidents with 2 fatalities; and,
- 50 injury accidents with 73 injuries.

The accident rate is 1.76 accidents per million vehicle miles compared to the statewide rural Primary Highway average rate of 1.44 for the same period of time. The accident severity rate of 1.63 is higher than the statewide average of 1.54. The truck accident rate was 1.28 compared to 1.23 statewide, and the severity rating was 1.47 compared to 1.49 statewide.

The following variations from average occurrences were documented: A higher than expected occurrence of off-road type accidents (60% vs. 44% statewide average) and accidents involving a collision with a rock or boulder (12% vs. 2% statewide average) were noted. Six road segments have been identified as accident clusters as noted in Table 2.2, below:

TABLE 2.2
Traffic Analysis Accident Clusters
And Recommended Safety Improvements.

Cluster	From km	To km	From MP	To MP	Comments and/or Recommended Safety Improvements
1	23.8	24.5	14.8	15.2	Chevron signing; completed 11-84.
2	27.8	30.4	17.3	18.9	Field review, 1986; no recommendations.
3	30.6	34.3	19.0	21.3	Slope flattening, remove boulders; will be incorporated with this project.
4	31.4	32.2	19.5	20.0	Curve and chevron signing; completed 3-91.
5	35.6	36.4	22.1	22.6	Field review, 1989; no recommendation.
6	36.8	37.5	22.9	23.3	Safety project recommended and completed.

From km 30.6 through 32.0 (MP 19.0 through 19.9), 55% of the accidents in this section, including both of the fatalities, occurred on clear, dry days during both daytime and nighttime driving conditions. Drivers apparently misjudged or incorrectly anticipated the road. With increased sight distance and wider shoulders, the local accident rate should decrease. Wider shoulders and flatter sideslopes will provide motorists greater opportunity to regain control of their vehicles. Improved roadway continuity (i.e. adjacent reconstruction/realignment projects) should also provide a safer route.

3. ALTERNATIVES CONSIDERED

The existing highway corridor is a long established route effectively serving residential, tourist, and farm-to-market traffic. There are no local alternatives having any advantage over the existing highway corridor for this project, with the possible exception of five alternate alignments in the *Medicine Tree* area as shown in Figure 3.1. The five alternatives are discussed in Section 3.3. The cost estimates (1991 dollars) used common end points and only include road and bridge construction costs and right-of-way acquisitions in the vicinity of the *Medicine Tree*. These costs are in addition to the $5.9 million estimated for the proposed project excluding the alternatives.

3.1. NO-BUILD ALTERNATIVE

One alternative considered for this proposed project was the "no-build" or "do nothing" alternative which would leave the roadway in its present condition. This would result in no activites beyond routine maintenance. This alternative was not pursued because it does not satisfy the stated purpose and need of the proposed project. It would not provide a facility capable of handling the existing or projected traffic volumes, reduce projected higher-than-average maintenance costs (see Section 2.1), or enhance safety for this stretch of roadway.

3.2. BUILD ALTERNATIVE

From the beginning of the project at km 26.1± (MP 16.24±) to the river crossing at km 29.1± (MP 18.1±), the new centerline will generally follow the existing horizontal alignment with some shifting toward the west shoulder of the existing road. From km 29.1± (MP 18.1±) to km 36.6± (MP 22.74±), the new centerline will generally be on the east shoulder of the present traveled way (PTW), excluding the *Medicine Tree* alternatives, below. From km 36.6± (MP 22.74±), the common end point of the *Medicine Tree* alternatives, to the end of the reconstruction section at km 37.4± (MP 23.24±), the new centerline follows the existing centerline. The remainder of the proposed project is described in Section 1. **Description of the Proposed Action**. Because this proposed project closely follows the existing travel corridor, environmental impacts will be minimized. Pursuing this alternative satisfies the purpose and need by providing a safe, efficient traffic facility capable of meeting existing and future demands.

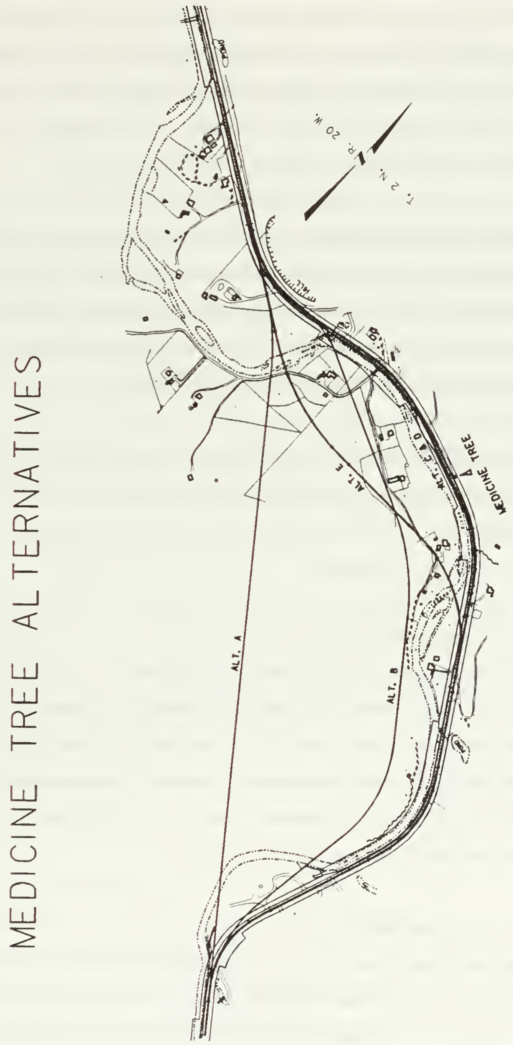

Figure 3.1. *Medicine Tree* Alternatives.

3.3. MEDICINE TREE ALTERNATIVES

The *Medicine Tree* site (24RA513), located near km 33.0 (MP 20.5), is a sacred place to members of the Confederated Salish and Kootenai Tribes (CSKT) as well as other Native American groups in the region. The *Medicine Tree* site represents the most culturally sensitive area within the project corridor, and was listed on the National Register of Historic Places in April 1995. The *Medicine Tree* site is a traditional cultural property which falls under the auspices of the National Historic Preservation Act (1966) and the American Indian Religious Freedom Act (1978).

The CSKT have communicated their strong interest in the *Medicine Tree* site to MDT (see Appendix A). The *Tree* represents a significant sacred site to members of the CSKT, who continue to use it in the practice of their native religion. CSKT members know that their present and future well being *as a living culture* depends on continued use of the *Medicine Tree* site for spiritual purposes. Sacred sites like the *Medicine Tree* are at the core of CSKT cultural and spiritual identity.

Although the extent of avoidance varies for each alternative, it is the intent of all proposed alternatives to avoid and/or reduce further impact to the *Medicine Tree*. The following five alternative alignments are considered as possible ways to avoid or reduce further conflict with the site. Figure 3.1 shows the approximate locations of the five alignments.

a. Alternative A

This alternative route would depart to the west of the existing road at km 31.5± (MP 19.6±), cross the East Fork Bitterroot River and cut through a mountain on a nearly straight horizontal alignment before rejoining the existing road at km 33.8± (MP 21.0±). This alignment would completely avoid the *Medicine Tree* by being located on the opposite side of the East Fork Bitterroot River. However, two new bridges as well as a cut through the mountain about 120 m (400 ft) deep would be required. The estimated construction cost for this alternative is $36 million.

b. Alternative B

This alternative route would also depart west of the existing roadway near km 31.5± (MP 19.6±) and cross the East Fork Bitterroot River before following the contour of the mountain base to minimize the deep cuts as much as possible. The new alignment would pass behind the Medicine Tree Ranch[1] and another residence before re-crossing the East Fork Bitterroot River again and connecting with the existing roadway at km 33.8± (MP 21.0±).

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[1] Although the Medicine Tree Ranch got its name from the cultural site, it is not associated with the *Medicine Tree*.

This alignment also closely parallels a bend in the river near km 32.5 (MP 20.2±) between the two new bridge locations. Construction cost of this option was estimated to be $3.4 million. This alternative would have adverse impacts in the form of relocation of four residences, encroachment on the river, undesirable hydraulic qualities (see Section 4.6 - Floodplain), and cost.

c. Alternative C

This alternative would follow the existing horizontal alignment of US 93. In the immediate vicinity of the *Medicine Tree* near km 33.0 (MP 20.5±), a 300 m (1000 ft) long cantilevered roadway structure would be built to shift the road west about 6.7 m (22 ft) over the river and away from the tree. The cost of this alternative would be about $3.9 million for the cantilever structure and related road construction work. The common end points of alternatives A and B were used for a comparative cost analysis of alternatives. River impacts would include loss of riparian vegetation under the cantilever structure due to reduced sunlight, temporary increase in turbidity in the river sediment load from construction, and minor changes in the river bottom contour due to the intrusion of a man-made structure. Visual and noise impacts at the *Medicine Tree*, though moderately reduced, would not be eliminated.

d. Alternative D

This alternative is very similar to Alternative C with the exception of using a retaining wall and/or gabions to shift the 300 m (1000 ft) segment toward the river and away from the *Medicine Tree*. This alignment would closely follow the present traveled way (PTW) and is estimated to cost about $735,000 and allow shifting the alignment approximately 3.7 m (12 ft) toward the river. Channel impacts to the East Fork Bitterroot River would include temporary construction-related sediment loading, and minor changes to the river bottom contour. Visual and noise impacts at the *Medicine Tree*, though moderately reduced, would not be eliminated.

e. Alternative E

This alternative would depart to the west of the existing road at km 32.5± (MP 20.2±) and cross the East Fork Bitterroot River at km 32.8± (MP 20.4±). This would place the alignment on the west side of the river totally avoiding the *Medicine Tree*. This alignment rejoins the existing road at about km 33.8± (MP 21.0±). Two new bridges would be required for this $2.1 million alternative. Short term construction-related impacts would include a temporary increase in turbidity in the river. The Montana Highway Commission selected this route as the preferred alternative.

3.4. OTHER ALTERNATIVES NOT CONSIDERED

The Montana Department of Fish, Wildlife and Parks suggested an alignment alternative that would return the East Fork Bitterroot River into an old channel near km 32± (MP 20±) that was abandoned when the road was originally constructed in 1936. This alternative did not warrant further consideration because of the following concerns. It would introduce additional horizontal curves, reduce sight distances on the curves and add two additional bridges to the proposed project. The river has shown no evidence of head-cutting and the embankments are stable.

4. AFFECTED ENVIRONMENT AND IMPACTS

The project proposes to upgrade and widen a deteriorating existing facility to meet current and anticipated travel needs. The relationship between the local short-term uses of man's environment, and the maintenance and enhancement of long-term productivity has been considered as discussed below. There will be some short-term uses of the environment during construction of the project, however, the impacts will be minor.

The Bitterroot River Valley is a long basin that narrows near the town of Conner before dividing to follow the East and West Fork Bitterroot Rivers. The winters are mild and summer temperatures are moderate. The average annual precipitation is 0.46 cm (18 in) per year with seasonal dry periods during July and August. Soils in the East Fork drainage are thin transported granites. They include both glacial till and outwash deposits. The soils are very shallow and support both grasslands and forest. The land use is predominantly grazing, logging, and wildlife habitat. The proposed project is surrounded by mountainous terrain and the steep forested ridges are covered by ponderosa pine broken by shrub and grasslands.

4.1. SOCIAL AND ECONOMIC

This proposal is on part of US 93 serving as the primary link from southern Idaho, through the Bitterroot Valley, to Missoula. The proposed construction would greatly improve the existing highway, thereby providing a safer, more efficient transportation facility for the traveling public. Access to employment, religious, recreational, educational and cultural sites will be improved.

This proposed project will have no adverse effects on existing public services and facilities. Beneficial effects will include a safer, more efficient route for school buses, mail carriers, ambulances, and other public service vehicles serving the area. Traffic flow will improve with easier access, but overall traffic patterns should not change due to the limited local economic diversity as well as long commuting distances to urban centers.

This project will have little or no effect on the long-term employment situation in the area. A short-term employment increase will occur during construction which will benefit the local economy. There is little or no available housing in the immediate area. This will increase demand for temporary housing in nearby communities.

No concentrations of minorities or low income groups have been identified in the area and no minority group or neighborhood will be adversely affected by this project. In summary, this project will have positive socio-economic effects throughout the corridor. Other positive effects will be realized in the areas of safety improvements for the travelling public and bicyclists. Executive Order 12895 - *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* was examined for this project. Implementation of the preferred alternative is not expected to create disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.

4.2. RELOCATION

The proposed corridor alignment has been selected to avoid residences and businesses located adjacent to the existing highway. The selection of Alternatives A, B, or E will affect property owners along the selected route. Alternative A crosses the property of approximately eight landowners. Alternative B crosses approximately eleven landowners. Alternative E crosses approximately five landowners. However, up to four residences may require relocation if *Medicine Tree* Alternative B is selected. The Alternative E alignment would require one relocation. If relocations are necessary relocation assistance will be provided in accordance with the Uniform Relocation and Real Property Acquisition Act of 1970 (P.L. 91-646) and the Uniform Relocation Act amendments of 1987 (P.L. 100-17).

Every effort will be made to relocate people in similar properties in the same environment and nearby area. It is the policy of the Montana Department of Transportation that no person shall be displaced by the construction of any federally aided highway project unless, and until, adequate replacement housing has been provided. All replacement housing offered will be fair housing, open to all persons regardless of race, color, religion, sex or national origin.

4.3. AIR QUALITY

Air quality impacts from the "no-build" alternative will increase over time as traffic volumes increase. Post-construction air quality impacts of all of the "build" alternatives will consist of vehicle exhaust emissions. Traffic volumes will increase over the twenty year life of the project, however, improved traffic flow will offset the potential increase of auto emissions on this route. The Montana Department of Environmental Quality's (DEQ) - Air Quality Division has indicated that:

> *"In general, any project which will smooth out the traffic flow and reduce stopping and idling time will also reduce the amount of air pollution emissions from transportation sources. Asphalt*

> *plants and gravel crushers are the primary emission sources for highway construction, and they must obtain an air quality permit from our office to operate in the state."*

Contractors will be required to obtain permits from the Montana Department of Environmental Quality's Air Quality Division for compliance. There will be no substantial changes in air quality over the long term. Short-term air quality impacts during construction will be confined to the local project vicinity.

This proposed project is located in an "unclassifiable"/ attainment area of Montana for air quality under 40 CFR 81.327, as amended. As such, this proposed project is not covered under the U.S. Environmental Protection Agency's Final Rule of November 24, 1993 on Air Quality conformity. Therefore, this proposed project complies with Section 176(c) of the *Clean Air Act* as amended (42 U.S.C. 7521(a)).

4.4. NOISE

Traffic noise on this route will increase as traffic volumes increase. Design year (2018) noise levels at eight (8) sensitive sites were analyzed and compared to existing noise levels for the "no-build" and *Medicine Tree* alternatives. The eight study locations selected as being most sensitive to possible traffic noise impacts were seven residences in the area of the alternatives and the *Medicine Tree* site. Table 4.1, below, is a summary of existing and design year (1998) peak-hour noise levels for the "no-build" and *Medicine Tree* alternatives at the eight study sites.

TABLE 4.1

Noise Levels Analysis From
km 31.5 - 33.8 (MP 19.6 - 21.0) in dBA.

Study Locations	1990 Peak Hour	"No-Build"	Alt. A	Alt. B	Alt. C & D	Alt. E	REMARKS
1	61	63	*	65	63	63	Residence
2	58	61	45	61	61	61	Residence
3	60	62	45	51	62	62	Residence
4	58	58	45	56	58	63	Residence
5	69**	71**	45	61	68**	51	*Medicine Tree*
6	54	56	49	63	57	54	Residence
7	54	56	55	68**	56	56	Residence
8	53	54	45	63**	54	58	Res.Cabin

* Relocated by this Alternative

** Exceeds 23 CFR 772 noise criteria (67 dBA) and/or constitutes a "substantial" noise increase.

"No-Build" Alternative

Traffic noise levels would increase between 1 and 3 dBA over existing peak levels by the year 2018 (design year). This is based on projected traffic growth with no change in existing roadway alignment.

Alternative A:

Traffic noise levels would be less than the no-build design year levels at all sites.

Alternative B:

Traffic noise levels would be less than the no-build design year levels at Sites 2, 3, 4, and 5; and increase up to 12 dBA over the no-build levels at Sites 1, 6, 7, and 8.

Alternatives C and D:

Traffic noise levels would be approximately the same as the no-build design year levels at all sites except Site 5 (the *Medicine Tree*). Noise levels at the *Tree* will decrease 2 to 3 dBA, although noise levels will still exceed 23 CFR 772 guidelines of 67 dBA.

Alternative E:

Traffic noise levels at Sites 1, 2, and 7 would be the same as the design year no-build levels (i.e. 2 to 3 dBA above existing levels). At Site 6, the design year noise level will be the same as the existing noise level. Sites 4 and 8 will increase 7 and 2 dBA, respectively, above existing levels. Site 3 will decrease by 4 dBA. There will be an 18 dBA decrease at the *Medicine Tree*, Site 5.

4.5. ENERGY

Construction of any of the proposed alternatives will improve traffic operations and efficiency by providing better alignments, wider roadway and more roadway capacity. This improvement in efficiency and traffic operations will result in fuel savings and a decrease in vehicle wear. The long-term effect of the project should therefore be a decrease in energy use. The No-build alternative will not improve highway operation and efficiency and will therefore provide no long-term decrease in energy use. The No-build alternative will require no commitment of resources. The selection of any of the Build Alternatives will require a commitment of energy resources for construction.

4.6. FLOODPLAIN

The roadway corridor parallels the East Fork Bitterroot River and is directly adjacent to the river along much of this section. Further longitudinal encroachments into the river or floodplain will be avoided wherever possible by shifting the road away from the river. Transverse floodplain encroachments exist and will remain at the East Fork Bitterroot River and the small drainage crossings such as Laird Creek, Medicine Tree Creek, and Robbins Gulch. MDT standard procedures and specifications will ensure minimal impacts from the transverse encroachments.

The East Fork Bitterroot River has not been delineated by the Flood Insurance Program and no formal floodplain development permit would be required. The Department of State Lands has not designated this stream as navigable, therefore no permit is required for construction encroachments below the low water mark. Individual floodplain impacts associated with the *Medicine Tree* alternatives are described below. See other water quality permits that will be required in Section 4.7.

Alternative A: The two new bridge structures and approaches to the bridges would be located in the floodplain.

Alternative B: Fill slopes for this alternative could possibly encroach longitudinally upon the floodplain approximately 460 m (1500 ft) south of the *Medicine Tree*. Also, the downstream crossing of the river on Alternative B has undesirable hydraulic qualities such as: 1) it is a very skewed crossing near a sharp bend in the river requiring a longer bridge and piers in the river; and 2) the East Fork Bitterroot River has high and moderate potential for debris and ice flow, respectively. A less skewed crossing would be greatly preferred.

Alternatives C and D: Alternatives C and D closely follow the present traveled way (PTW). There would be floodplain and channel encroachment on 300 m (1000 ft) of the East Fork Bitterroot River in the vicinity of the *Medicine Tree*.

Alternative E: The approaches to the two new bridges and the bridge structures would be located in the floodplain and will slightly increase the water surface elevation for a short distance upstream during flood flows.

4.7. WATER QUALITY PERMITS REQUIRED

Water quality effects associated with the stream crossings/wetland areas will generally be short-term construction related. The following permits will be acquired prior to any relevant disturbance.

This proposed project will be in compliance with the provisions for both Water Quality under **75-5-401(2) M.C.A.** for *Section 3(a)* authorizations, and Stream Protection under **87-5-501** through **509 M.C.A.**, inclusive.

- A 124SPA Stream Protection Permit will be required by the Montana Department of Fish, Wildlife and Parks.
- A Section 3(a) authorization, the construction contractor is required to obtain.

This proposed project will require the following permits under the *Clean Water Act* (**33 U.S.C. 1251 - 1376**):

- A *Section 402*/Montana Pollutant Discharge Elimination System permit from the Montana Dept. of Environmental Quality's Water Quality Division; and,

- A *Section 404* permit from the U.S. Army - Corps of Engineers. The COE will determine if this proposed project qualifies for a "Nationwide" 404 permit under the provisions of **33 CFR 330**.

All work will also be in accordance with the *Water Quality Act* of 1987 (**P.L. 100-4**), as amended.

The contractor will be required to exercise reasonable precautions during construction to prevent pollution of all waters located in the project area. The contractor will also be required to meet the requirements of the applicable regulations of the Montana Department of Fish, Wildlife, and Parks, Department of Environmental Quality, and other local, state, or federal regulations for the prevention or abatement of water pollution. These include the applicable regulations under the Federal Clean Water Act of 1987 as well as the Montana Environmental Policy Act. There will be no adverse long-term water quality impacts resulting from this project.

4.8. PRIME AND UNIQUE AGRICULTURAL LANDS

This proposed project will not impact lands designated as "prime, unique or of statewide or local importance" by the U.S. Department of Agriculture - Soil Conservation Service (SCS). Although an "Important Farmlands" map of Ravalli County has not been published, the Ravalli County SCS office was requested to identify and susequently found no Prime/Unique Farmland, or Farmlands of Statewide/Local

Importance being affected by this proposed project. A Farmland Conversion Impact Rating form (#AD-1006) was completed for this proposed project in accordance with the Farmland Protection Policy Act (FPPA - 7 U.S.C. 4201, et seq.). The *Total Points* for this proposed project's Site Assessment Criteria are less than 160. Therefore, under 7 CFR 658.4 (c) no additional consideration for protection is necessary. A copy of this completed form is Appendix A-2.

4.9. WETLANDS / ADJACENT WETLANDS

Wetlands provide important habitat for a wide variety of plant and animal species. Some wetlands are very productive and diverse in wildlife species, while others are not because they lack protective cover, food and nest sites, they are nutrient poor, or the wetlands are located too close to human disturbance.

There are seven wetlands located adjacent to the proposed project as shown in Figure 4.1. The total wetland area along the project corridor is approximately 1.4 hectares (3.4 ac). Table 4.2 shows the size, location, functional value, and impact size of these identified wetlands. The filled hectares/acres on the table show impacts for the Build Alternative as discussed in Sections 1.0 and 3.2. Wetland delineation was conducted in accordance with the Army Corps of Engineers 1987 Wetlands Delineation Manual.

TABLE 4.2
Delineated Wetlands and Impacts.

Wetland	Kilometer	Milepost	Total Hectares	Filled Hectares	Total Acres	Filled Acres	Wetland Value‡
1	36.7	22.8	0.50	0.04	[illegible].2	0.1	14
2	34.4	21.4	0.08	0.08	0.2	0.2	4
3	34.3	21.3	0.08	0.04	0.2	0.1	13
4	33.5	20.8	0.04	0.04	0.1	0.1	4
5	33.3	20.7	0.04	0.08	1.0	0.2	14
6	32.5	20.2	0.08	0.08	0.2	0.0	4
7	26.7	16.6	0.20	0.04	0.5	0.1	12
TOTAL				0.32		0.8	

‡ Wetland values are scored out of a total possible of 24 points.

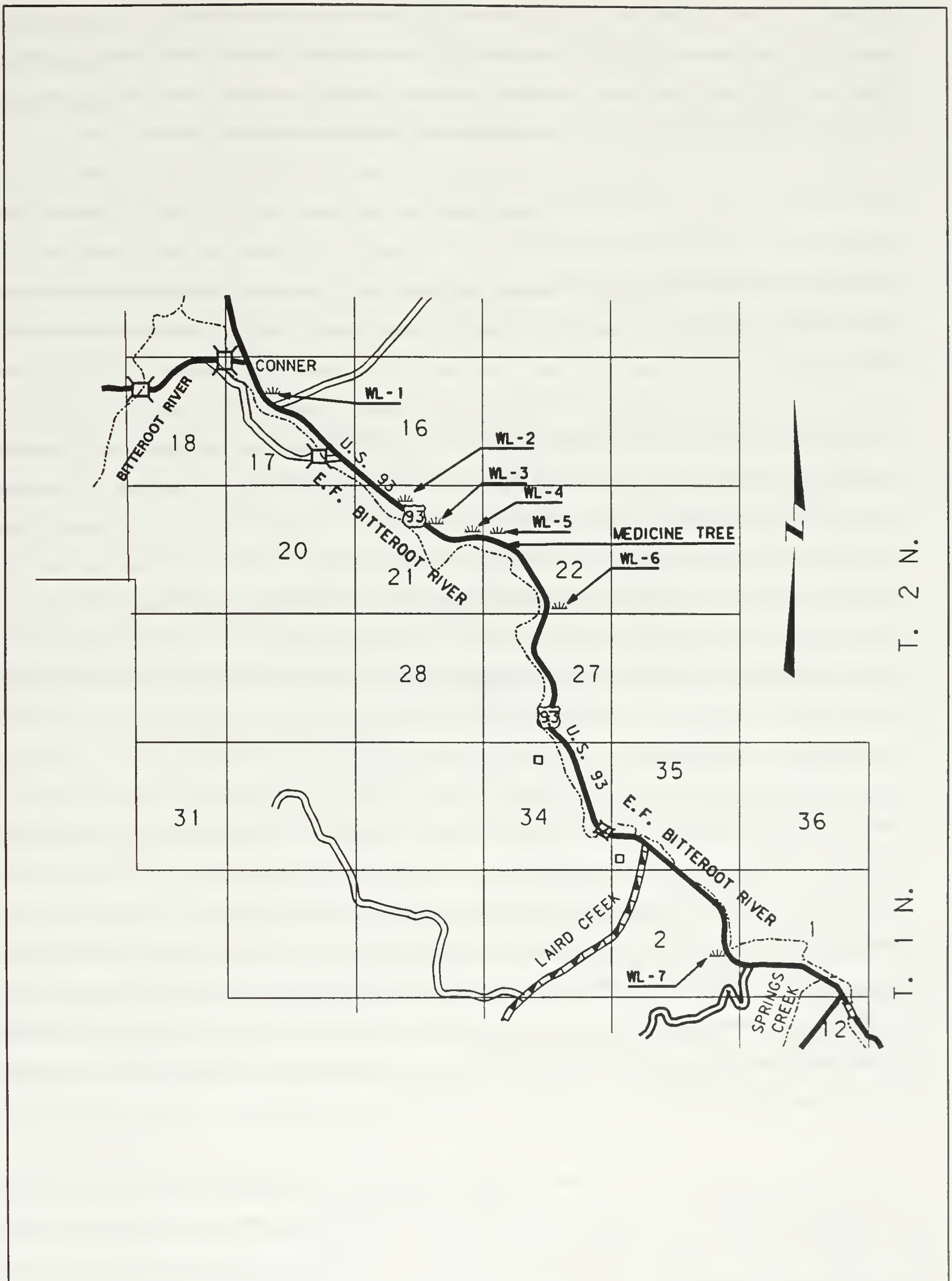

Figure 4.1. Wetland Location Map.

Wetland values were determined by rating several parameters at each wetland site, then totaling those ratings to develop an overall functional wetland value. Major rating parameter categories include wildlife habitat use, fisheries utilization, recreational use, and nutrient capability, etc. A complete list of parameters and the ratings for each is in Appendix B, Biological Resources Report.

Wetland sites 1, 2, 3, 5, and 7 have moderate overall wetland values scoring 14, 9, 13, 11 and 12 points, respectively, out of the 24 total possible points. The majority of these have high waterfowl values, moderate physical attributes, but no fisheries use. Sites 4 and 6 have low overall wetland values scoring 7 and 4 points, respectively. These two wetland sites have negligible wildlife habitat value as well as no fisheries use.

Alternatives A and B would not impact wetlands 4, 5, and 6 reducing wetland impacts to 0.20 hectares (0.5 acres). Wetland impacts remain at 0.32 hectares (0.8 acres) with Alternatives C & D. Alternative E would not impact wetlands 4 and 5 reducing wetland impacts to 0.20 hectares (0.5 acres). Wetland loss along the project corridor is unavoidable and of limited nature. Areas of wetland loss will occur where the proposed route cannot be directed away from the wetland due to the close proximity of the Bitterroot River on the opposing shoulder. There is very limited potential for on-site wetland mitigation; therefore, the preferred mitigation is to use available MDT wetland credits at the Lee Metcalf Otter Pond.

4.10. LAND USE

There will be no alteration to current land use trends or traffic flow patterns, although the improved roadway may accelerate land use changes that are currently impacting this corridor. Lands adjacent to the project location previously used for agricultural purposes, timber production, and non-use are being subdivided and sold for rural homesites to the point that homesites are now the major land-use type in the project area. Most of the homesites are less than four hectares (10 ac) in size, as evidenced by the 67 different ownership plats along this 14.5 km (9 mi) project. There remain only a few large undeveloped tracts of land along the project. This trend of changing land-use patterns has been impacting land uses along this corridor for about the last 15 years and will continue.

Housing growth is influenced by the area's aesthetic value and many recreational opportunities that make it a desirable place to live. Considering the residential development potential of the area, access control will be pursued as a means of protecting the safety of the roadway and the public's investment. The Ravalli County Commission welcomes an access control plan along with the improvements proposed for the subject project. They are not aware of any other major traffic generators planned along this corridor.

Once the proposed Conner North & South and Sula North & South reconstruction projects are completed on this section of US 93, traffic patterns may change for the recreationist. A wider, more comfortable drive may entice recreational vehicle drivers, who would have otherwise avoided the current facility, to drive this road. Presently, Ravalli County has no comprehensive land use plan or planning policy. This proposed project would give local residents and county planners opportunity to provide input on the location of approaches.

The area in the vicinity of the *Medicine Tree* is already experiencing land use changes. By introducing a new road and easier access to the valley on the west side of the East Fork Bitterroot River, there is a potential for smaller tract home subdivisions to increase. The large land tracts split by the new road would probably be subdivided because it would be less desirable to keep them as a unit. It is impossibile to predict these impacts given that there are so many variables which contribute to growth and subdivisions, no zoning, and no known models or studies which would allow one to accurately predict these impacts.

4.11. HISTORICAL, CULTURAL, AND ARCHAEOLOGICAL RESOURCES

Cultural resource inventories of the project area were completed by a consultant in 1989, 1990, and 1991. This report was conducted in accordance with MDT policy and consisted of both file/records search and field survey. The cultural inventories identified twelve sites that were determined to be not eligible for the National Register of Historic Places (NRHP). The following two sites were determined to be eligible for NRHP.

a. Site 24RA281, Whitesell Irrigation Ditch Flume.

The Whitesell Irrigation Ditch Flume (24RA281) was constructed in the late 1880s or early 1890s. The site is an excellent example of a timber box and trestle-type flume. The flume remnants of the abandoned Whitesell irrigation ditch is eligible for the National Register of Historical Places. The State Historical Preservation Office (SHPO) concurred on June 6, 1995 with MDT's determination of **No Effect** for the site (in Appendix A-2).

b. Site 24RA513, the *Medicine Tree*.

A culturally significant site, the *Medicine Tree* (24RA513), is located at km 33.0± (MP 20.5±). The site is considered a sacred site by regional Native American groups and is protected under the American Indian Religious Freedom Act (1978) and the National Historic Preservation Act (1966). The *Medicine Tree* was listed on the National Register of Historic Places in April, 1995. The site boundaries included the 25 acres immediately surrounding the tree east of the East Fork of the Bitterroot River.

Alternatives A, B, and E: These alternatives will have no effect on the *Medicine Tree* site because they bypass the site on the other side of the river. MDT received SHPO concurrence on June 6, 1995 of **No Effect** on the *Medicine Tree* for the preferred Alternative E. Selection of these alternatives would avoid the *Medicine Tree* site and therefore avoid any subsequent *Section 4(f)* evaluation (Section 4.12).

Alternatives C and D: These alternatives would shift the highway 6.7 m (22 ft) and 3.7 m (12 ft), respectively, toward the river and away from the tree while keeping the road on the same side of the river. Based on the relative position of the road today and the condition of the site, these alternatives would continue to have a negative impact on the *Medicine Tree*. Selection of either alternative would require a *Section 4(f)* Evaluation to be completed (see Section 4.12).

4.12 *SECTION 4(F)*

Selection of Alternative C or D would require use of land included in the boundaries of the NRHP site, the *Medicine Tree*, and therefore would require a *Section 4(f)* Evaluation to be completed to comply with *Section 4(f)* of the U.S Department of Transportation Act (49 U.S.C. 303), as amended. This states (in part) that:

> *"The"* (Federal Highway) *"Administration may not approve the use of land from a significantly publicly owned public park, recreation area, or wildlife and waterfowl refuge, or any significant historic site unless a determination is made that:*
>
> *(i) There is no feasible and prudent alternative to the use of land from the property; and*
>
> *(ii) The action includes all possible planning to minimize harm to the property resulting from such use."*

This proposed project will not impact any other *Section 4(f)* sites such as publicly-owned parks, recreation areas, or wildlife/waterfowl management areas.

4.13. FISH, WILDLIFE AND THREATENED/ENDANGERED SPECIES

A biological resources report has been completed for this project and is included in Appendix B. The Montana Department of Fish, Wildlife and Parks, and the U.S. Fish and Wildlife Service were consulted to determine the nature of fish and wildlife resources in the project area. In summary, this project will have no adverse effects on any known threatened or endangered species, species of special concern or rare and sensitive plants.

a. Big Game

Traditional elk range exists primarily on the west and south side of the river. There is believed to be little interaction of elk from either side of the highway due to a combination of topography and noise disturbance of the highway. The ridge between Dickson and Blind Draw Creeks, across the valley from the *Medicine Tree*, supports a number of elk. Spring aerial surveys of elk trends in the Laird Creek-Dickson Creek area document heavy use by this big game animal.

White-tailed deer use is mostly associated with the riparian bottoms and lower reaches of adjacent slopes, while moose use within the study corridor is low. Investigated accidents involving animals are 21.3% compared to the state wide average of 12.2%. The increased sight distance, and wider clear zone will provide motorists more time to react to wild animals crossing the roadway. Consequently, wild animal collisions should decrease. Because alternatives C and D are on the existing right-of-way, they present the least impacts to all terrestrial biological resources and are the most remote to key use areas. Of the three alternatives on the west side of the river (i.e. A, B and E), alternative E would impose the least impact on elk and deer populations in the area.

b. Threatened and Endangered Species.

No threatened or endangered species would be directly affected by this project. Implementation of this proposed project is not likely to adversely affect any of Montana's eight animals classified by the U.S. Fish and Wildlife Service as threatened or endangered. Four of these species are not (or historically were not) present in this area; therefore this assessment is limited to the other four threatened or endangered species that include the:

- bald eagle (*Haliaeetus leucocephalus*),
- peregrine falcon (*Falco peregrinus*),
- grizzly bear (*Ursus arctos horribilis*), and the
- gray wolf (*Canis lupus*).

The U.S. Fish and Wildlife Service (USFWS) advised (August 14, 1989) that the bald eagle and the peregrine falcon may occur along the immediate project location as seasonal migrants. The bald eagle is known to nest some 70 km (45 mi) north, and peregrine falcons were recently reintroduced at a site approximately 30 km (20 mi) southwest of the proposed project. Relocated powerlines will be raptor-proofed, per the recommendation of the USFWS.

Historically, grizzly bears inhabited the Bitterroot Mountain Range but no longer reside in the area. There have been no documented sightings since 1956. Portions of the Bitterroot National Forest's wilderness have been designated as future recovery areas by the Interagency Grizzly Bear Committee; however, all recovery areas are very remote from the project area. Also, there have been no documented sightings of wolves near the project area. Presently, there is no reason to suspect the presence of either grizzly bears or wolves within the project area, even as transients.

c. Species of Special Concern

A wide variety of bird species frequent the study corridor and surrounding areas. Species of special concern that may be observed in the area include the golden eagle, ferruginous hawk, northern goshawk, flammulated owl, boreal owl, northern pygmy owl, great gray owl, Brewer's sparrow, and Le Conte's sparrow. Rough-legged hawks are common winter residents. All nesting sites are far enough from the highway to preclude any adverse impact.

Mammal species including the fisher, spotted skunk, lynx, hoary marmot, and myotis bats could be found near or within the project area, though their preferred habitats do not occur within the immediate construction site. Amphibian habitat for the tailed frog would likely be found in the feeder tributaries of the East Fork Bitterroot River, not in the proposed construction areas.

d. Rare and Sensitive Plants.

Rare and sensitive plants have been found in the general area. Lemhi beardtongue was found near km 37.3± (MP 23.2±) on the existing right-of-way . It is listed as an S2-imperiled species that is doing very poorly in Montana. A second site of Lemhi beardtongue occurs in Robbins Gulch 1.6 km (1 mi) from the current PTW and is not likely to be impacted by proposed construction. MDT has retained a consulting botanist to collect seed and rescue plants from the right-of-way. The seed and rescued plants will be propagated in a nursery and retained until transplanting is possible following road construction.

The dwarf onion, another sensitive plant, is located in the vicinity of Spring Gulch Campground on a west-facing slope on the east side of the river and will not likely be impacted by the proposed construction.

e. Aquatic Resources.

The East Fork Bitterroot River supports self-sustaining populations of rainbow-, brown-, bull-, brook-, and cutthroat trout. Other species found within the system are mountain whitefish, slimy sculpin and less commonly, the long nose dace. The stream is a quality fishery that contributes notably to the reproduction and population of the Bitterroot River. Numerous small order drainages flow into the East Fork Bitterroot River within the project area, but only Warm Springs and Laird Creeks have enough sustained flow to provide habitat for spawning trout.

4.14. RIGHT-OF-WAY

The existing right-of-way on this project varies but is generally 15 m (50 ft) on each side of the centerline. The minimum metric standard right-of-way width for NHS highways such as this is 25 m (82.0 feet) on either side of the centerline. Over 26 ha (65 acres) of additional right-of-way will be required along the existing project corridor due to widening. New right-of-way corridors will also be required if alternative alignments A, B or E are selected. Table 4.4, below lists the amount of new right-of-way corridor required for alternatives A through E.

TABLE 4.3
Additional Right-of-Way Required
For the *Medicine Tree* Alternatives.

Alternative	Hectares Required	Acres Required
A	9.2	22.8
A	10.4	25.7
C	0.0	0.0
D	0.0	0.0
E	5.3	13.2

4.15. CONSTRUCTION

Construction-related activities will result in a short term increase in air pollution and other unavoidable impacts including:

- emissions from asphalt plants and crushers;
- dust from construction equipment activities;
- increased noise levels from construction equipment;
- potential erosion from freshly exposed cut and fill slopes;
- increased water turbidity in streams from construction activities; and,
- inconvenience to highway users resulting from delays and detours.

The contractor will be required to adhere to all federal, state, and local regulations to minimize any pollution. These impacts will be reduced to the extent practical through proper construction practices. Dust will be controlled by watering and/or other acceptable methods. Temporary erosion control measures will be used when construction activities are immediately adjacent to a river or stream. Construction related erosion will be controlled, and slopes will be re-vegetated as soon as possible. Air quality permits will be obtained from the Montana Department of Health and Environmental Sciences - Air Quality Division for asphalt plants and crushers.

A beneficial use permit from the Montana Department of Natural Resources and Conservation will be obtained by the contractor for water-use during construction. There will also be a temporary increase in noise levels during the construction phase.

There are phone and power lines that cross or run adjacent to the new alignment and will require relocation. Arrangements will be made by the MDT to move the conflicting utilities prior to the start of construction. Although there will be short-term service disruptions, all necessary utilities will be perpetuated.

Because the new roadway will follow the existing alignment, it will be necessary to maintain highway traffic during construction. Construction is estimated to be completed in two construction seasons. Traffic control shall consist of furnishing, installing, maintaining, and relocating necessary traffic signs, barricades, pavement markings, and other traffic control devices necessary to ensure the safety of the general public and project personnel. All work will be done in accordance with the Standard Specifications for Road and Bridge Construction manual, the Manual on Uniform Traffic Control Devices, standard drawings and approved traffic control plans. This will disrupt the area causing traffic delays, however, it will be short-lived and last only as long as it takes to complete the necessary work.

4.16. TRANSPORTATION IMPACTS

The improvements are not expected to generate much additional traffic beyond the increase that would occur with the "no build" alternative. The improvements will have a beneficial impact on safety and traffic operations.

4.17. PEDESTRIANS AND BICYCLISTS

US 93 is part of a transcontinental bicycle route. While no special facilities are planned for pedestrians and bicyclists, the 2.4 m (7.9 ft) paved shoulders will benefit those non-traditional users. It should be noted that if rumble strips are installed on the shoulder, there will be about 1.95 m (6.4 ft) of paved shoulder outside the rumble strip for bicycle and pedestrian use.

4.18. VISUAL

This project area is surrounded by mountainous terrain and prominent peaks with elevations as high as 2300 m (7500 ft) above mean sea level. The steep forested ridges and hill country that form the mountain base compose a majority of the viewscapes. Prominent cliffs and steep, broken, rocky terrain is associated with the lower reaches of some slopes within the project area. Within the canyon bottom itself lies the fast flowing East Fork Bitterroot River at an average elevation of 1250 m (4100 ft). There are several small drainages that join the river within the area including Medicine Tree Creek, Robbins Gulch and Laird Creek.

Because the narrow, winding road has few pullout areas, views of the surrounding area from the highway are intermittent due to the attention required to drive safely. This road has been following[2] the river course for nearly sixty years. Over the years, the re-channeled stretches of the river have stabilized and the botanical array has grown up and around the road, blending it into part of the landscape.

Most of this project will continue to follow the existing road, so long term visual resources will not be altered in these areas. Because this project involves widening and improving an existing roadway with horizontal and vertical alignment changes, effects on the visual environment of the current alignment will not be notable. Where the alternative alignments depart from the PTW, the visual environment will change. Gentler flow lines and revegetation will add visual appeal and help unify new construction with the landscape. Alternatives A and B would impact the visual environment of the landowners in the immediate area. The large cuts on Alternative A would be disruptive to landscape components in the area. The visual impacts to the traveling motorists will be to a lesser extent due to the short time spent in the area as they travel through. Alternative B would be less disruptive while still impacting the visual environment of landowners and motorists. Alternative E follows the contours of the land and has a gentler flow line. Visual impacts from Alternative E are in the nature of being another road in the area and bisecting the landscape. The selection of either the A, B, or E alternative to the existing road will increase the visual presence of man-made structures (i.e. bridges). Landowners along Alternative E will be visually impacted by the roadway. These impacts will be partially mitigated by revegetation and seeding.

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[2] Portions of the river was re-channeled when the road was originally built in 1936.

4.19. HAZARDOUS WASTE POTENTIAL

There is little potential of exposing hazardous waste sites during construction. The project is not adjacent to businesses or operations that are possible sources of hazardous materials such as landfills, chemical manufacturers or fueling stations. If a hazardous waste site is uncovered during construction, then a contingency plan will be followed as suggested by the AASHTO Task Force on Hazardous Wastes in their "Hazardous Waste Guidelines for Project Development." There are no EPA Superfund sites along the project and no known hazardous waste sites; therefore this proposed project is not expected to impact hazardous waste.

4.20. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

No resources other than money, labor, and road building materials will be irretrievably committed to this project. The land that will be required for right-of-way will not be available for other use unless a demand greater than the roadway requires a land use change. The use of land, money, labor, and materials will provide an improved highway facility serving the greater common good.

4.21. CUMULATIVE IMPACTS

Cumulative effects are those "...impacts which result from the incremental consequences of an action when added to the other past and reasonably foreseeable future actions" (40 CFR 1508.7). This proposed project is between adjacent transportation improvement projects to the north and south. The Sula North & South project [F 7-1(40)9] is a similar proposed highway reconstruction project just south of this project on US 93 (P 7). The Sula N & S project is similar in scope to the currently proposed project and includes realignment/reconstruction of about 11 km (7 mi) of existing roadway. The project is tentatively scheduled for letting in 1998. The 37 km (23 mi) segment of US 93 between the northern terminus of the proposed project and Hamilton, Montana was reconstructed and widened under four separate construction projects which were completed between 1982 and 1991. The proposed Hamilton-Lolo project [NH 7-1(64)49] will widen and improve 55.5 km (34.5 mi) of roadway between Hamilton and Lolo in both Ravalli and Missoula Counties, approximately 53 km (33 mi) north of this proposed project. This project will be completed in segments over the next six to seven years. None of these projects will have any significant cumulative impacts on this proposed project. This proposed project will also have no significant cumulative environmental impacts on the adjacent projects.

The proposed Hamilton-Lolo project will be built along the Bitterroot River. It will cross several drainage crossings not associated with the Conner N & S proposed project. Due to its distant proximity to the Conner N & S project, it will not have any cumulative effects on this project nor will the Conner N & S project have any cumulative effects of it.

The adjacent Sula N & S proposed project's environmental document resulted in a determination that associated impacts would not be significant. That proposed project encroaches upon approximately 3.8 ha (9.5 acres) of low quality wetlands, does not effect any known, threatened of endangered species, or any farmlands that are prime, unique, or of statewide or local importance. There are no significant cultural, historical, or archaeological resources that will be affected. The Sula N & S project also includes modification to increase the length of the East Fork Bitterroot River channel, thereby providing more habitat for fish in the area.

In comparing the findings in the Sula N & S proposed project's environmental document (Finding of No Significant Impact on the Environmental Assessment, January 1995) to the Conner N & S proposed project's Environmental Assessment, neither project will have any significant cumulative effect on the other. The improvements to various sections of US Highway 93 will result in a more efficient transportation system that improves the efficiency and desirability of travel.

4.22 EROSION CONTROL AND SEEDING

An Erosion Control Plan will be submitted to the Montana Department of Environmental Quality's Water Quality Division in compliance with their Montana Pollutant Discharge Elimination System Regulations (ARM 16.20.1314) for this proposed project. Best Management Practices will be used in the design of this Plan using guidelines as established in MDT's Highway Construction Standard Erosion Control Workplan. The objective is to minimize erosion of disturbed areas during and following construction of this proposed project.

In accordance with **7-22-2152**, and **60-2-208 M.C.A.**, MDT will re-establish a permanent desirable vegetation community along all areas disturbed by the proposed construction. A set of revegetation guidelines will be developed by MDT that must be followed by the contractor. These specifications will include instructions on seeding methods, seeding dates, types and amounts of mulch and fertilizer, along with seed mix components. Seed mixes include a variety of species to assure that areas disturbed by construction are immediately stabilized by vegetative cover. The Seeding Special Provisions developed for this proposed project will be forwarded to the Ravalli County Weed Board for approval.

5. COMMENTS AND COORDINATION

5.1. SUMMARY

This chapter is a summary of information gathered by MDT for the Environmental Assessment that includes comments by interested parties and cooperating government agencies. Correspondence from the Confederated Salish-Kootenai Tribes (CSKT) contained in MDT's files is included in Appendix A-1. Correspondence and comments from local homeowners[3] and cooperating government agencies are included in Appendix A-2.

a. *Medicine Tree* Alternatives

The *Medicine Tree* alternatives were developed for this project to avoid and or minimize the impacts to this sensitive site. The *Medicine Tree* has cultural and religious significance to the Confederated Salish-Kootenai Tribes (CSKT). The East Fork Bitterroot River follows the existing road through this narrow section restricting the design options for alternative alignments.

A cultural resources consultant completed a cultural survey at the request of MDT. The consultant had been advised through a CSKT lawyer that Tribal Elders would not participate in the cultural survey. As a result, it should be noted that the Tribes questioned the report's accuracy regarding their culture, religion, and tribal history. The cultural resources report does contain other information regarding the historical development of the area and a list of the historical and cultural sites recorded by the survey. This report is on file at the Montana Department of Transportation, 2701 Prospect Avenue, Helena, Montana and the State Historical Perservation Office.

Selection of Alternate E as the Preferred Alternative by the Montana Highway Commission will have **No Effect** on the *Medicine Tree* site.

b. Biological Resources

The analysis of biological impacts and subsequent mitigation planning was done by field survey, agency consultation and literature review. The Biological Resources Report and the Wetlands Finding are included in Appendix B. The field survey was done between June 5th and July 10, 1992. Agencies interviewed and consulted include:

- U.S. Fish and Wildlife Service (USFWS);

---

[3] Homeowners potentially affected by the *Medicine Tree* alternatives.

- Montana Dept. of Fish, Wildlife and Parks (MDFW&P);
- U.S. Forest Service (USFS); and,
- Montana Heritage Program.

5.2. CHRONOLOGY OF COORDINATION

The following is a chronological summary of the coordination with tribal and private parties interested in and/or affected by the proposed project and *Medicine Tree* Alternatives:

MAY-89: A meeting was held with the CSKT Flathead Culture Committee and tribal elders to discuss the proposed project and listen to their comments. Approximately 34 people attended. The Culture Committee requested MDT to neither test the archaeological sites nor request a determination of eligibility for listing for the *Medicine Tree* on the National Resister of Historic Places. Alternatives A, B and C were developed in response to comment and considerations as a result of this meeting.

NOV-89: Another meeting, attended by about 60 people, was held in St. Ignatius, MT with the Flathead Culture Committee. Several Tribal Chairmen, the tribal attorney and tribal elders attended and were presented with Alternatives A, B and C. Most of the speakers preferred Alternative A because it is located the farthest away from the *Medicine Tree*. The consensus of tribal members was that the cost of Alternative A could not be compared to the value of the *Tree* and surrounding site. Several speakers also requested removal of the Historic Marker because it was inappropriate, inaccurate and a tourist lure.

NOV-89: A Notice of Intent was circulated in the project area advertising an Information Meeting to be held in Conner, MT, on November 14, 1989. Approximately 50 people attended and discussed Alternatives A, B, C and D. At that time, Alternative E had not yet been developed. Safety improvements were the primary concern of those who attended including better visibility at curves and approaches. Other concerns involving right-of-way, mailboxes, fencing and private access issues were also brought up for discussion.

Most speakers asked questions concerning specific problems relevant to the proposed project. Alternatives A and B were not given serious consideration by those in attendance. The general consensus from the local citizenry was that the many environmental considerations (especially relocation of residences) outweigh the effects of the project on the *Medicine Tree.*

APR-91: CSKT Tribal members met in Helena with the Director of the Montana Department of Transportation regarding the *Medicine Tree* Alternatives. The Director instructed MDT staff to find another alternative on the west side of the river that would avoid the *Medicine Tree*. Alternative E was outlined following field confirmation between MDT staff and three Tribal members. Alternative E was then presented to the Flathead Culture Committee by the three Tribal members during their meeting that same month. The Cultural Committee considers this a viable alternative.

JUN-92: A Notice of Status was advertised.

OCT-92: FHWA and MDT personnel visited informally with local property owners to obtain their comments regarding the proposed project and the *Medicine Tree* Alternatives. In general, most owners believe that the *Medicine Tree* has significant historical value. However they do not believe it is of such importance for them to accept relocation, disruption of the community, and the environmental implications of adding another road to the area.

The local landowners, though respectful of Native American beliefs and culture, generally believe that this is not the original *Medicine Tree*. However, they do not believe Alternatives A, B or E (i.e. the alternatives on the west side of the East Fork Bitterroot River) represent just and equitable balances between impacts to them and the CSKT people. There is also concern that selecting Alternative E would promote and accelerate sub-dividing the larger land parcels that are split by this alignment.

OCT-94 The Montana Highway Commission selected Alternative E as the Preferred Alternative.

JAN-95 A Missoula law firm, representing local residents who would be impacted by Alternative E, requested an opportunity to present the input of their clients and other people in the area who oppose the selection of this alternative.

JAN-95 The Missoula District Engineer responded to the request above, stating that the Environmental Assessment was nearly complete. After completion of the EA, MDT would hold a public hearing on the project.

DEC-95 A formal public hearing is scheduled for January 18, 1996. Written comments will be invited from all interested parties. If appropriate, following receipt of written comments, the Montana Department of Transportation will prepare a separate document recommending a Finding of No Significant Impact (FONSI) for the project. That document will incorporate this Environmental Assessment (EA) and any other appropiate environmental information.

5.3. List of Preparers

The following parties are responsible for the preparation and content of this document.

Joel M. Marshik, P.E.
Environmental Services Manager
Montana Department of Transportation
P.O. Box 201001
Helena, MT 59620-1001

Dale W. Paulson
Environmental Coordinator
Federal Highway Administrator
301 South Park, Drawer 10056
Helena, MT 59626

5.4 List of Agencies with Jurisdiction and/or Permits Required

U.S. Army - Corps of Engineers	A Section 404 Permit

Under the authority of Section 404 of the Clean Water Act, Department of the Army permits are required for the excavation or discharge of dredged or fill material below the ordinary high water mark of our nation's rivers, streams, lakes or in wetlands. The Corps of Engineers will be sent a copy of the Environmental Assessment for comments.

Montana Dept. of Environmental Quality	A Section 402 MPDES Permit
Montana Dept. of Fish, Wildlife, and Parks	A 124 Stream Protection Permit

5.5 List of other agencies, persons, or groups contacted or have contributed information

The Confederated Salish and Kootenai Tribes

The Flathead Culture Committee

The State Historical Preservation Office

The Keeper of the National Register - National Park Service

6. APPENDICES

6.1. Appendix A-1 - Confederated Salish and Kootenai Tribes Comments

6.2. Appendix A-2 - Local Residents and Agency Comments

6.3. Appendix B - Biological Resources Report and Wetlands Finding

APPENDIX A-1 - CONFEDERATED SALISH AND KOOTENAI TRIBES COMMENTS

1/0

THE CONFEDERATED SALISH AND KOOTENAI TRIBES
OF THE FLATHEAD RESERVATION

P.O. Box 278
Pablo, Montana 59855
(406) 675-2700
FAX (406) 675-2806

Joseph E. Dupuis - Executive Secretary
Vern L. Clairmont - Executive Treasurer
Bernice Hewankorn - Sergeant-at-Arms

TRIBAL COUNCIL MEMBERS:
Michael T. (Mickey) Pablo - Chairman
Donald (Fred) Matt - Vice-Chairman
Elmer (Sonny) Mongeau, Jr.
Floyd W. Nicolai
Louis W. Adams
Laurence Kenmille
Robert L. (Bob) McCrea
Lloyd D. Irvine
Joe Dog Felsman
Pat Lefthand

RECEIVED
APR 26 AM 9:53
DEPARTMENT OF HIGHWAYS

April 25, 1989

Larry W. Larsen, Director
Montana Department of Highways
2701 Prospect Avenue
Helena, MT 59620

RE: Confederated Salish & Kootenai Tribe/Protection of Religious Freedom

Dear Mr. Larsen:

The Confederated Salish and Kooteni Tribes subsequent to receipt of your notice dated November 28, 1988 regarding Project F 7-1(4) 16 Conner N. & S., have reviewed the project. Our Culture Committees advise the Tribal Council that it has the potential to adversely impact the "Medicine Tree", also known as the "Ram's Horn Tree" located on U.S. 93 south of Darby, Montana.

It is our understanding the proposed highway widening is to occur as soon as 1994. The Confederated Tribes are gravely concerned with this possible highway construction. The State of Montana must try to understand the importance of this sacred site, and the commitment of the Tribes to protect it from any further desecration. The Tribes are willing to work with the state on protecting this site, but are willing to seek legal remedies if a satisfactory resolution can not be reached. Our elders advise against any further encroachment upon this area. The spiritual use of this site is already hampered by the existing highway, and the thought of moving the road closer concerns them.

We, the Tribal Council, of the Confederated Tribes believe that Montana, with this proposed construction, has an opportunity to assist Native People in protecting sacred areas. We have the opportunity to mitigate the already existent damage to the area, and move the highway further from the site. This effort would assist Native People in their efforts to freely practice their traditional beliefs, and would be in the spirit of federal law protecting Indian religious practices, the Indian Religious Freedom Act.

The Tribes look forward to meeting representatives from the Highway Department next month, and hope our efforts will protect this very important religious and historical site.

Sincerely,

Michael T. Pablo

Michael T. Pablo
Tribal Chairman

cc: Flathead Culture Committee
Kootenai Culture Committee
Edrie Vinson, Architectural Historian
Tribal Legal Department
Governor Stephens

FLATHEAD
SALISH KOOTENAI
NATION

**THE CONFEDERATED SALISH AND KOOTENAI TRIBES
OF THE FLATHEAD RESERVATION**

P.O. Box 278
Pablo, Montana 59855
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Laurence Kenmille
Robert L. (Bob) McCrea
Lloyd D. Irvine
Joe Dog Felsman
Pat Lefthand

RECEIVED
90 JAN 11 [illegible] 10
DEPARTMENT OF HIGHWAYS

January 9, 1990

Larry W. Larsen, Director
Department of Highways
Highway Building, 2701 Prospect Avenue
Helena, Montana 59620

Re: Medicine Tree and Montana Department of Highways Project F7 - 1(4)16 Conner North and South

Dear Mr. Larsen:

This is to formally express our concern and dismay at the Department of Highways' Conner construction plan which will adversely impact the Medicine Tree, an important cultural and religious site of the Flathead and other tribal people. The importance of this site is recorded in Flathead legends and is still used for healing purposes. For generations the Flathead people and other tribal people have traveled to the Medicine Tree and the surrounding area for Spiritual purposes. The Conner Construction Project proposed by Montana Department of Highways threatens continued use of this spiritual site.

The Flathead Culture Committee has been in contact with Edrie Vinson regarding the construction plans for the Conner Project. On November 6, 1989, at an informal meeting with tribal elders, the Flathead Culture Committee made two recommendations to the Department of Highways. First, that the proposed construction of the highway be moved across the East Fork of the Bitterroot River and as far away from the Medicine Tree as possible. Second, that the State historic marker be removed because it inaccurately describes the purpose and use of the tree, and gives the impression that the tree is merely a roadside attraction.

The Tribes hope you take this opportunity to correct the injustice that was created when the highway was originally constructed so close to the Medicine Tree. The close proximity of the highway to the Tree has hampered proper and private spiritual use of the Tree. The noise of ongoing traffic and stares by curious onlookers interferes with our religious practice. The State historic marker has encouraged use of the Tree by tourists who do not know the proper use or significance of the Tree. The Cultural Committee has, on many occasions, removed objects from the Tree which appeared to be trash taken from peoples cars. Such items have no place on this sacred Tree.

The Culture Committee opposes any of the alternatives proposed by the Department of Highways in its July 10, 1989, letter, which place the highway closer to the Medicine Tree, which hampers use of the Medicine Tree by interference by traffic noise or by curious onlookers, or which prevents proper and private use of the tree as a spiritual site. The alternatives which do not address these concerns are simply not acceptable.

The Confederated Salish and Kootenai Tribes Tribal Council fully supports the recommendations by the Flathead Culture Committee and we have directed our legal staff to assist the Cultural Committee's commitment to protect this sacred site and other significant spiritual sites in the surrounding area. In planning this project, I am sure that the Department of Highways does not want to violate or offend the fundamental cultural and religious rights of the Flathead people. The Tribes hope to continue to work with the Department of Highways to satisfactorily resolve this problem in a manner that protects the Tribes' cultural and religious practices.

Sincerely,

Michael T. Pablo

Michael T. Pablo
Chairman of the Tribal Council

MTP/cm

Fort Belknap Community Council

(406) 353-2205
P.O. Box 249
Fort Belknap Agency
Harlem, Montana 59526

Fort Belknap Indian Community
(Tribal Govt.)
Fort Belknap Indian Community
(Elected to administer the affairs of the community and to represent the Assiniboine and the Gros Ventre Tribes of the Fort Belknap Indian Reservation)

January 17, 1988 ←
DATE
1989

Edrie Vinson, Architectural Historian
Environmental Unit
Department of Hishways
2701 Prospect
Helena, MT 59620

F 7-1(41)
Connor

Dear Edrie:

I am sending this letter to you in response to your letter to Poncho Bigby of November 28, 1988. In your letter you requested our input regarding the State of Montana Department of Highway's proposal to widen U.S. Highway 93 south of Darby, Montana which may impact the "Medicine Tree" or "Ram's Horn Tree." We wish to thank you for your considerateness, care, and sensivity to your Native Montana and Native American past.

Since receiving your letter we have learned that the Medicine Tree or Ram's Horn Tree is a very religious Salish site. In history, culture, and religion of the Salish or Bitterroot People who used to inhabit that area, this tree has an important place in their Tribal History, lore and culture. Members of the Salish Tribe have expressed to us their deep concern in maintaining the sacredness and sanctity of the site. Your sincere consideration would be greatly appreciated. We appreciate your sensitivity to the views and feelings of Montana's Native People. Please keep us informed regarding matters such as this. If you have any further questions, please don't hesitate to contact us.

Sincerely,

Gilbert Horn, Sr.
Chairman

cc: file

Date Recd. Preconst. 1 11 X 10

Act	Info	MAIL ROUTE	Attach
		20	
	✓	30 Eng. Specialties	
		31 Contract Plans	
	✓	32 Loc. Road Design	
	✓	33 Environment	
		34 Hydraulic	
		35 Surfacing Design	
		36 Traffic	
		37 Pub. Hearing	
		38 Photogrammetry	
	✓	39 Consultant Design	
	✓	Weaver	
	✓	Russell	
	✓	File	

APPENDIX A-2 - LOCAL RESIDENTS AND AGENCY COMMENTS

Montana Department
of
Fish, Wildlife & Parks

1420 East Sixth Avenue
Helena, Montana 59620
August 23, 1989

Stephen C. Kologi, P.E. Chief
Preconstruction Bureau
Department of Highways
2701 Prospect Ave.
Helena, MT 59620

RE: F 7[illegible]-1(41)16
Conner-North & South

Dear Steve:

The following comments are directed toward the Conner - North & South federal aid highway project on US Highway 93.

The East Fork of the Bitterroot River contains a good population of rainbow and cutthroat trout and is considered a valuable fishing resource.

Where possible, we encourage all proposed alignment changes to be directed away from the river.

Thank you for the opportunity to comment on this project.

Sincerely,

Ken Chrest

Ken Chrest
Stream Protection Coordinator
Fisheries Division

Date Recd. Preconst. 8/25/89
9/06/89

Act	Info	MAIL ROUTE	Attach	Initial
		30		
	✓	31 Eng. Specialties		
		32 Contract Plans		
	✓	[illegible] Road Design		
	✓	33 Environment		
		34 Hydraulic		
		35 Surfacing Design		
		36 Traffic		
		37 Pub. Hearing		
		38 Photogrammetry		
		39 Consultant Design		
	✓	[illegible]		
	✓	File		

drg
C: Workman
file

U.S. Department of Transportation
Federal Highway Administration

MONTANA DEPT. OF TRANSPORTATION
RECEIVED
OCT 27 1992
HELENA, MONTANA

Memorandum

cc: G. L. Larso
Barry Brost

MASTER FI
COPY

Subject: F 7-1(41)16 Connor-North and South

Date: October 26, 1992

From: Environmental Coordinator
Helena, MT

Reply to Attn. of: HPM-MT

To: Mr. Hank D. Honeywell
Division Administrator
Helena, MT 59626-0056

As everyone is aware the development of this project has been complicated by the Medicine Tree. The Tree has religious and cultural significance to Indian people and historic significance to others. Because of cultural and value differences, the issues, feelings and beliefs surrounding the Tree and this project have been particularly difficult. On October 6,7 & 8 Gordon Larson and I visited with families living near the Medicine Tree. The thrust of our effort was to explain the project development process and to get a better understanding of the issues and feeling of those impacted by the project.

The Medicine Tree is a religious site of the Salish and other tribal people. The Tree has been used as a place of healing and the Salish make pilgrimages to the Medicine Tree every spring and fall. However, individuals use the tree throughout the year.

The Medicine Tree is a large ponderosa pine situated approximately 15 feet from the highway pavement. The Bitterroot River closely parallels the road on the other side. There has been substantial historical and anthropological information written about this Salish Medicine Tree and the site will likely be determined eligible for the National Register of Historic Places. The Confederated Salish and Kootenai Tribes are working directly with the National Register on the eligibility determination. The exact boundary of the site has not been determined but it is reasonable to expect that the site boundaries will encompass some amount of area around the Tree. The site will then come under the provisions of section 4(f).

Because the Indians wish to protect the sanctity of the Tree and the site, they would prefer relocating the roadway on the other side of the river away from the Tree. They are also concerned that because of the controversy associated with the proposed highway project the Tree will be subjected to vandalism and malicious harm. Unfortunately roadway relocation also carries with it social, economic and environmental impacts. In general the non-Indian population in the area believe that the Tree has historical significance. They do not believe that the significance is of a magnitude that merits accepting the impacts associated with road relocation. Some even question the need for the project in the first place.

From the tone of the discussions it was clear that we have not adequately established the purpose and need for the project. Some individuals we talked to are not convinced that their quality of life, or for that matter anyone's quality of life, will be significantly reduced if the road is not rebuilt. When the need to reconstruct the road can not be satisfactorily explained it becomes very difficult to explain why the road must be moved.

There is also a general belief that the Tree is not the original Medicine Tree. Residents have a strong desire to preserve the beauty of the area and highway reconstruction is looked upon as a first step in the demise of the natural beauty. However there is also a strong desire for a decision. Residents believe that their lives have been put on hold while they wait for the bureaucracy to make a decision.

It appeared to us that Alternate E is the only feasible avoidance alternative. However, it will impact several properties in varying degrees. It was evident that feelings ran high with four of these families. Central to their feelings is the belief that they are being impacted because of the tribes desire to protect and isolate the Tree. While Native American beliefs and culture are respected by the families, they do not believe that Alternate E represents a just and equitable balance between impacts.

We also noted that the area is ripe for development. Should the road relocation occur, it is likely that a large area will be opened up for subdivision and small tract home building. This is based on the notion that the severed Medicine Tree Ranch may loose some of its appeal for a single operating unit. This, along with the improved access resulting from the road relocation, may lead to an increased desire to subdivide.

We were advised that there was going to be a neighborhood meeting to discuss the course of action to be taken.

The following is a summary of the comments made during our visit:

Lee and Rosanne Reynolds

A road on new location will cost too much. Moving the road is not a good expenditure of public funds.

It will be difficult to maintain the old road if a new road is built.

The old road must be kept open for school bus traffic and it will require additional taxpayer dollars.

Don't buy any new land. Enough land is used for the highway the way it is.

Have you thought about channel changing the river and moving the road away from the Tree?

We respect Indian cultural values. But, the road should not be moved.

Jim & Betty Younghaus and Dave and Darlene Fold

The decision on which alternative to build is taking too long. A decision should be made so everyone affected can make plans and get on with their lives.

Alternate E is OK. It would minimize impacts to the property.

Alternated C & D may impact the well on the Younghaus property.

The additional cost for the new alignment is not a serious concern.

It is likely that the influence of the tribes will eventually require a realignment.

Max Lemon

The Lemons have a trucking company and access to the highway is very difficult for trucks on the existing alignment.

The existing alignment will eventually cause accidents because of the poor sight distance in front of the property.

Alternate E would improve the alignment & sight distance and is favored for that reason.

The Lemons believe that the Medicine Tree is an interesting historic marker but they have no strong feelings or beliefs about the Tree.

An apple tree marked by a sign is located on a portion of the property that would be impacted by alternate E. The sign indicates that the apple tree was planted in 1890. The apple tree is known to various individuals in the area. This tree has no special significance and will probably not be an issue.

Carol Dutton

There is a dog kennel and grooming business on the property. Alternates C & D will impact the property and the business. The remainder may not be large enough to support the business.

The last meeting on the Tree was three years ago and there has been no further information on the project.

There are two sides to the issue. A decision needs to be made so plans can be made.

Alternate E would not impact the property and is favored for that reason.

Lee & Gloria Bartlett

The Tree is being treated differently than a church.

Develop a park around the Tree so it can be enjoyed by everyone.

The Tree is not the original and homes should not be destroyed to protect it. The stump of the real tree is located near our property.

The highway could be routed around the back of the Tree on land that has no economic value.

The land that Alternate E would go through is frequented by lots of deer and occasional Moose.

The no build alternative is preferred.

June and Smut Warren

Alternate E would impact the Warren's property and is unacceptable.

The Warrens believe that the area surrounding their home was once known as POW-WOW grounds.

There are Indian writings on the rocks back of the Tree.

Something must be done with the highway. It is becoming much too dangerous. People that do not live by the road don't feel the full impact of the increasing traffic.

A short no-build section next to the Tree would work.

Use of the Tree by Indians is low. Because of the low usage, the taking of private property can not be justified.

Everyone should work together to improve the road. Everyone will be impacted to some extent. However, the major impacts that will result from Alternate E are not acceptable.

We are going to have a neighborhood meeting to discuss the road project.

Richard and Doreen Sain

The road should stay where it is. It is ridiculous to move the road.

This is a scenic route and the scenic qualities should be preserved.

Speed limits should be used to slow people down.

Peggy Sue Rouse Cross has fee title to the land and the land the highway is on is there by easement.

The Tribes are actively pursuing the purchase of the land from Peggy Sue.

A decision should be made as soon as possible.

The Sains would like to divide their the property and sell a part of it. They may build on the remaining portion.

Peg Platt

There is right on both sides but we have already used enough land for road purposes.

More impacts to reduce an existing impact is not the answer.

Impacts to the Tree must be balanced against other environmental impacts.

There is a possibility that the other side of the road will be subdivided and in that case everyone loses.

Leave the road where it is. The best use of the land is for habitat, not roads. However, Alternate E will not impact this property and from a personal standpoint the road would be OK across the river.

Doyle and Pricella Tolliver

Alternate E will require complete relocation of the Tollivers.

No build alternative is favored.

No impacts on river.

No impacts on anyone that lives along the road.

The canyon is beautiful so it should be left as it is.

The eligibility of the Tree should be fought.

Use speed limits.

Carl & Janet Willson Medicine Tree Ranch

Alternate E will sever the Wilson property.

Alternate E will completely ruin our way of life.

This is a beautiful area and everything should be left as it is.

Build a one way pair on either side of the Tree.

Dale W. Paulson /S/

Dale W. Paulson

c: MDT - Gordon Larson
c: MDT - Edrie Vinson

November 13, 1992

"Smut" Warren
P. O. Box 215
Conner, MT 59827

Gordon Larson, Asst. Administrator
Engineering, Mt. Dept. of Transportation

Re: Widening Hi 93 S of Conner Cut-off

Sub: Homeowners Meeting re/above

Dear Sir:

As per our agreement the day you were out to talk to us about the proposed widening of Hi 93, enclosed you will find notes from our homeowners meeting and the newspaper article that followed.

If you would like to contact any of us in regards to this, please feel free to contact us. I can be reached at 821-3312.

Sincerely,

Smut Warren

"Smut" Warren

SW/jbw
Enc.

October 16, 1992

To: Ruth Thorning

From: Smut Warren

Re: Widening of Hi 93 S

Sub: Homeowners Meeting re/above

Date of Meeting: October 15, 1992, 7:30 P.M.

Place: Smut & June Warrens home, Bunky Ranch

In Attendance: Smut & June Warren, Evelyne Musson, Dave & Darlene Folz, Doyle & Priscilla Toliver, Carl & Janet Wilson, Richard & Doreen Sain, Gloria Bartley, John Neiubuurt (prospective buyer for Sain property)

1. From individual meetings with 2 members of highway dept, all parties agreed route probably taken would be Alt. E

2. Alt. E would take part of Medicine Tree Ranch (owned by the Wilsons), part of the Sain property, all of the Toliver property, and part of the Warren property.

    a. Medicine Tree Ranch is one of the oldest homesteads in the valley and is a historical landmark.

    b. The Warren property taken is where the tipis are located. Artifacts have been found in that area and recorded by the Historical Society. Also this property is purported to be recorded as PowWow Flats, ground that once was used by the different tribes as a meeting area.

    c. Because of a and b, Doreen Sain, Priscilla Toliver and June Warren will be contacting the Historical Society in Helena to see if we can't get on our own registry to prevent the "desecration" of this historical property.

3. The Indians are going for a registry to insure that Alts C & D aren't used.

4. If the registry is not granted, our proposal would be to widen the area from approximately the Dutton property to the end of the Warren property (south end) just enough to widen the soft shoulder and make the stretch ~~[illegible]~~ more safe. This could be made into a Scenic Route with the speed limit lowered.

4. We are going to seek legal counsel to see what our rights are as we don't plan to take the loss of some of the most beautiful waterfront property along Hi 93, as well as the loss of some of the Bitterroot's history. Any duplication of similar

4. property for these 4 homeowners would be impossible.

We would like the population of theBitterroot Valley to know there is a lot more at stake by using certain alternates in the widening of this stretch of Hi 93, than the loss of the Medicine Tree.

Hopefully, we and the Indians can work together and preserve all of the priceless history of this area. Once this property is destroyed, a very important piece of history is lost forever.

"Smut" Warren

Conner road project continues

Which way will the road go?

By RUTH THORNING

Homeowners who live near the Medicine Tree south of Conner are concerned about plans by the Montana Highway Department for their property during a reconstruction project on Highway 93 south of Darby. The project, known as Conner North and South, is scheduled for construction in 1995.

The historic Medicine Tree south of Conner is a designated historical and religious site for the Salish Indians.

A number of alternatives in road construction are being considered to protect the tree during the new highway project with alternate alignments for the roadway being considered. One alternative, Alt. E, has the possibility of bridges crossing the river and the highway being built on the west side of the Bitterroot River.

Eight residents in the area met at the Smut and June Warren home last Tuesday to discuss the highway department's plans. Although no official decision has been made, highway department representatives have contacted all the homeowners and discussed the possibility of purchasing some or all of their property to accommodate the highway. From those dis-

See Road, page 8

Road

Continued from page 1

cussions, the homeowners feel Alt. E will be the one that is chosen.

This alternative would take part of property owned by the Warrens, Richard and Doreen Sain, Doyle and Priscilla Tolliver and Carl and Janet Wilson.

While acknowledging the importance of the Medicine Tree, the affected homeowners also feel their property has historical significance. Native American artifacts have been found on the Warren property, according to local historical society records, and the area was once known as PowWow Flats and was a gathering place for various tribes, according to Warren.

The Medicine Tree Ranch, owned by the Wilsons, is one of the oldest homesteaded properties in the Darby area, the group says, and could be designated as a historical site.

The homeowners will be seeking additional information about achieving a permanent historical designation for the areas. "We don't plan to take the loss of some of the most beautiful waterfront property along Highway 93 as well as the loss of some of the Bitterroot's history without seeking legal counsel to see what our rights are," Warren said.

The homeowners would prefer to see the highway around the tree built out over the river and the speed zone in that area reduced. They consider that to be the most cost-effective solution with minimal impact to surrounding property.

Warren said they hope to work with the Salish tribe and the highway department to find a solution which will be right for all people involved.

Dan Bartsch of the Montana Highway Department said a great deal of public comment on the project has been received and is being reviewed. Public comment is still being accepted and can be sent to the department's Missoula and Helena offices. Alternatives for the roadway in the vicinity of the Medicine Tree are under consideration and have not been finalized.

Montana Department of Fish, Wildlife & Parks

RECEIVED
FEB 03 1994
ENVIRONMENTAL BUREAU

1/31/94

Carl Peil
Preconstruction Bureau
Montana Dept. of Transportation
Transportation Building
2701 Prospect Ave.
Helena, MT 59620

F 7-1(41)16 F
Conner - N&S

Dear Carl:

The Montana Department of Fish, Wildife and Parks would like to offer another alternative road alignment for a piece of the Conner North and South Project along the East Fork of the Bitterroot River near the Medicine Tree. Enclosed is a map and a rough sketch of our proposal.

The sketches indicate the proposal. It consists of putting the River back into the old channel and putting the new highway where the present river channel exists. It would be necessary to build two bridges, which is consistent with some of the original proposals, and would take the highway away from the area of the Medicine Tree. Our best estimate is that approximately 1000 feet of additional river length could be recovered.

I have discussed the project with the landowner along the old river channel and he is interested in the restoration of the river back into that channel. I realize that there are other landowners affected by this proposal. They would likely be the same people affected by the original Alternatives B and E, which we commented on in our March 12, 1993 letter.

As with each alternative, this one has some problems. The landowners affected by the alignment change is one. Other possible problems is the tight corner the new channel would make near the building marked 'home' on the drawing, and the steep hillside across from the home.

The Department would appreciate your review of this proposal. If you have any questions, please contact me at (406) 363-7169. My mailing address is: Bitterroot National Forest
1801 North 1st St.
Hamilton, MT 59840

Thank you for your consideration of this matter.

Sincerely,

Chris Clancy, Fisheries Biologist

Date Recd. Preconst. 2-3-9
MAIL ROUTE
Act | Info | Attach | Initial
30 Preconst Engr
30 Assistant
30 Office Mgr
31 Safety Mgmt.
32 Road Design
33 Environment
34 Hydraulics
35 Survey & Mapping
36 Traffic Eng.
37 Traffic Operations
39 Consultant Dsn.
J.T. Walsh
File

ED

FEB 1 1995

ENVIRONMENTAL BUREAU

UNITED STATES
DEPARTMENT OF
AGRICULTURE

NATURAL RESOURCES
CONSERVATION
SERVICE

1709 N. 1ST STREET
HAMILTON, MT 59840

February 1[illegible] 1995

MASTER FILE
COPY

Joel M. Marshik, Manager
Environmental Services
Montana Dept. of Transportation
PO Box 201001
Helena, MT 59620-1001

Dear Joel,

I have reviewed the "prime farmland" soil map units for the Conner - North & South, F 7-1(41)16 project area and found none within your proposed right-of-way designation.

If you have further questions, feel free to call me at 406-363-5010.

Sincerely,

Keith M Robertson

Keith M. Robertson
Resource Conservationist
Hamilton Field Office

U.S. Department of Agriculture

FARMLAND CONVERSION IMPACT RATING

PART I (To be completed by Federal Agency)	Date of Land Evaluation Request Jan. 31, 199
Name of Project F 7-1(41)16, Conner - North & South, CN 1281	Federal Agency Involved USDoT - Federal Highway Administration
Proposed Land Use Highway Right-of-Way	Ravalli County, Montana
PART II (To be completed by SCS)	Date Request Received by SCS 2/7/95

Does the site contain prime, unique, statewide or local important farmland? (If no, the FPPA does not apply - do not complete additional parts of this farm.)	Yes ☐ No ☒	Acres Irrigated	Average Far Size
Major Crop(s)	Farmable Land in Govt. Jurisdiction Acres: %		Amount of Farmland as Define in FPPA Acres:
Name of Land Evaluation System Used	Name of Local Site Assessment System		Date Land Evaluation Returne by SCS 2/14/95

PART III (To be completed by Federal Agency)		Alternate Site Rating			
		Alt. A	Alt. B	Alt. C & D	Alt. E
A. Total Acres to be converted directly		22.8	25.7	0	13.2
B. Total Acres to be converted indirectly					
C. Total Acres in Site					
PART IV (To be completed by SCS) Land Evaluation Information					
A. Total Acres Prime and Unique Farmland					
B. Total Acres Statewide and Local Important Farmland					
C. Percentage of Farmland in County or Local Govt., unit to be converted					
D. Percentage of farmland in Govt. Jurisdiction with same or higher relative value.					
PART V (To be completed by SCS) Land Evaluation Criterion Relative Value of Farmland to be converted (Scale of 0 to 100 Points)					
PART VI (To be completed by Federal Agency) Site Assessment Criteria (These criteria are explained in 7 CFR 658.8(b))	Max. Pts.				
1. Area Nonurban Use	15				
2. Perimeter in Nonurban Use	10				
3. Percent of Site Being Farmed	20				
4. Protection Provided by State and Local Govt.	20				
5. Distance from Urban Builtup Area	N/A				
6. Distance to Urban Support Services	N/A				
7. Size of present farm unit compared to average	10				
8. Creation of nonfarmable farmland	25				
9. Availability of farm support services	5				
10. On-farm investments	20				
11. Effects of conversion on farm support services	25				
12. Compatibility with existing agricultural use	10				
TOTAL SITE ASSESSMENT POINTS	160				
PART VII (To be completed by Federal Agency)					
Relative value of farmland (From Part V)	100	100			
Total Site Assessment (From Part VI above or a local site assessment)	160				
TOTAL POINTS (Total of above 2 lines)	260				

Site Selected:	Date of Selection	Was a Local Site Assessment Used? Yes ☐ No ☐

Reason for Selection:

(See instructions on reverse side)

Form AD-1006(10-

E.O. 11593

DETERMINATION OF ELIGIBILITY NOTIFICATION

National Register of Historic Places
National Park Service

Name of Property: Medicine Tree Site

Location: Ravalli County State: MONTANA

Request submitted by: FHwA/Dale Paulson

Date received: 3/2/95 Additional information received:

Opinion of the State Historic Preservation Officer:

X Eligible __Not Eligible __No Response __Need More Information

Comments:

The Secretary of the Interior has determined that this property is:

X Eligible Applicable criteria: A, B __Not Eligible

Comments:

See attached comments

__Documentation insufficient
(Please see accompanying sheet explaining additional materials required)

Carol R. Shull
Keeper of the National Register

Date: 4/13/95

WASO-28

Name of Property: Medicine Tree Site

Location: Ravalli County **State:** MONTANA

Request submitted by: FHwA/Dale Paulson

The Medicine Tree Site is eligible for listing in the National Register of Historic Places under Criteria A and B. The appropriate areas of significance include Ethnic Heritage-Native American, Social History, Religion, Health/Medicine, and Philosophy.

The Medicine Tree site is a place of important spiritualism for the Salish people of Western Montana and neighboring tribes. The tree and its immediate surroundings reflects a site where the Salish have carried out traditional cultural practices important to maintaining their historic identity since time immemorial. The Tree is an extension of the Salish worldview and a significant source of spiritual assistance, guidance, and renewal.

Under Criterion B, the site is significant for its association with "Coyote," a spiritual figure important in Salish culture. The oral traditions linking Coyote with the Medicine Tree represent important aspects of Salish spiritual and historical education, reflecting generations of continued tradition. The significance of the site under Criterion B--in association with chiefs Victor and Charlot, Gov. Stevens, and Fr. DeSmet--is not adequately justified. While the four identified individuals are clearly important to the history of the tribe, there is little direct association between their significant contributions and the Medicine Tree site.

The boundaries for the site established by the Salish are well justified and include the tree and the associated cultural use area without specifically naming individual features. The proximity of the tree to the river appears to justify inclusion of a portion of the shoreline and the intervening roadway. The best sources for a traditional cultural property boundary definition are those individuals that physically use the site and this seems to be the basis for the boundary description narrative. Traditional historic usage, as related by those still carrying on the customs, is matched with identifiable geographic features (drainages, shoreline, tree, landforms, etc.) to define the included area. Unwarranted buffers or protective zones are not evident.

MDT
Montana Department
of Transportation

2701 Prospect Avenue
PO Box 201001
Helena MT 59620-1001

Marc Racicot, Governor

MASTER FILE
COPY
MAY 18 1995

RECEIVED
JUN 08 1995
ENVIRONMENTAL BUREAU

May 15, 1995

Dr. Mark Baumler
State Historic Preservation Office
1410 8th Avenue
P.O. Box 201202
Helena, MT 59620-1202

Subject: F 7-1(41)16
Conner - North & South
Control No. 1281

Enclosed is the Determination of Effect for the above project. We have determined that the proposed project would have **No Effect** to the NRHP-eligible Whitesell Ditch Flume (24RA281) and **No Effect** to the NRHP-listed Medicine Tree (24RA513). We request your concurrence.

If you have any questions, please contact me at 444-6258

Jon Axline
Jon Axline, Historian
Environmental Services

Enclosure

cc: James Weaver, P.E., Missoula District Administrator
Carl Peil, P.E., Preconstruction Bureau
Joel Marshik, P.E., Environmental Services
Gordon Stockstad, Resources & Permitting Section
Dale Paulson, FHWA
Clarence Woodcock, Flathead Culture Committee w/attach.
Karen Atkinson, Confederated Kootenai-Salish Legal Office w/attach.

CONCUR
MONTANA SHPO
DATE 6 Jun 95 SIGNED

Appendix B - Biological Resources Report and Wetlands Finding

MONTANA DEPARTMENT OF TRANSPORTATION
BIOLOGICAL RESOURCES REPORT

Project Name: CONNER NORTH & SOUTH
Project Number: F 7-1(41)16
Control Number: 1281

Prepared by:

Robert S. Harris
Fisheries and Wildlife Biologist
Montana Department of Transportation
December 1992

EXECUTIVE SUMMARY

The primary goal of the proposed joint Montana Department of Transportation and Federal Highway Administration project is to reconstruct 14.1 kilometers (8.8 miles) of U.S. Highway 93 between mileposts 16.5 (Warm Springs Creek) and 25.3 (Rye Creek area). The purpose of the project is to provide a wider and safer highway facility through full construction.

Within the area of the Medicine Tree Historical Site (MP 20.5, Sta. 346), there have been five construction alternatives suggested for consideration. Impacts to terrestrial and aquatic resources have the potential to be adversely significant depending upon the alternative selected. The weighing of impacts to all biological resources suggests a preference for certain alternatives and those preferred rate significantly higher for avoidance and minimization.

For the two alternatives north of the river and designed to use the present travelled way, Alternative D poses the least harm. For the three alternatives south of the river, Alternative E is least detrimental to the resources, ranking second overall to Alternative D.

There are additional impacts anticipated for areas outside of the scope of the Medicine Tree alternatives. Generally, these impacts are unavoidable in spite of minimization. Losses to wetland sites and sensitive plant communities within the project area are two examples.

Upon final selection of an alternative, the assessment of this Biological Report should be reviewed by the MDT project biologist for any further mitigation/coordination measures. The following mitigation/coordination measures are presently required:

- With the selection of any alternatives located south and west of the river, drift fencing to minimize big game/traffic encounters shall be installed.

- No construction related activities such as staging, batch plant, borrow/gravel source activities, etc., shall be established south and west of the river when adjacent to the few moderate to high elk use areas due to displacement from related noise levels.

- Any powerline relocations made necessary shall be constructed and raptor-proofed in accordance with the Raptor Research Report No. 4 (Raptor Research Foundation 1981). Raptor-proofing is a policy currently being applied by the Montana Department of Transportation.

- (Sensitive plants) Mitigation requires the removal of the plants on-site prior to construction, potting and care of these plants through the construction phase, and ultimately restocking the site with surviving plants. New plants should be propagated from the seed collected on August 4, 1992. Restocking with these additional plants would compensate for projected mortality of parent plants.

- (T & E Species) As construction of the Conner North & South project is not anticipated to begin before 1995 or 1996, it is required that a quick inventory/data search be conducted two months prior to the advertising for bids to verify that no T & E Species have established a territory prior to the start of construction.

The following mitigation/coordination measures are strongly recommended:

- In that no practical mitigation measures exist to counter the impacts of Alternative A, it is suggested to decision makers that this alternative is not biologically feasible. Furthermore, the feasibility of Alternative B should be questioned if the majority of its adjacent slope requires back sloping. This is recommended in that other alternatives exist which are far more compatible with the resource.

  (Aquatics) In that coffer damming is most likely to adversely affect all aquatics through sedimentation, it is strongly recommended that driven pipe be used for any piering needs within the project.

- Many portions of the current right-of-way lie adjacent to the river's channel. Where possible, during widening on an existing alignment, it is recommended that efforts be directed to avoid any further encroachment on the river's edge than is currently present. Thus, any sedimentation resulting from construction, sanding, traffic activities, etc., should be minimized.

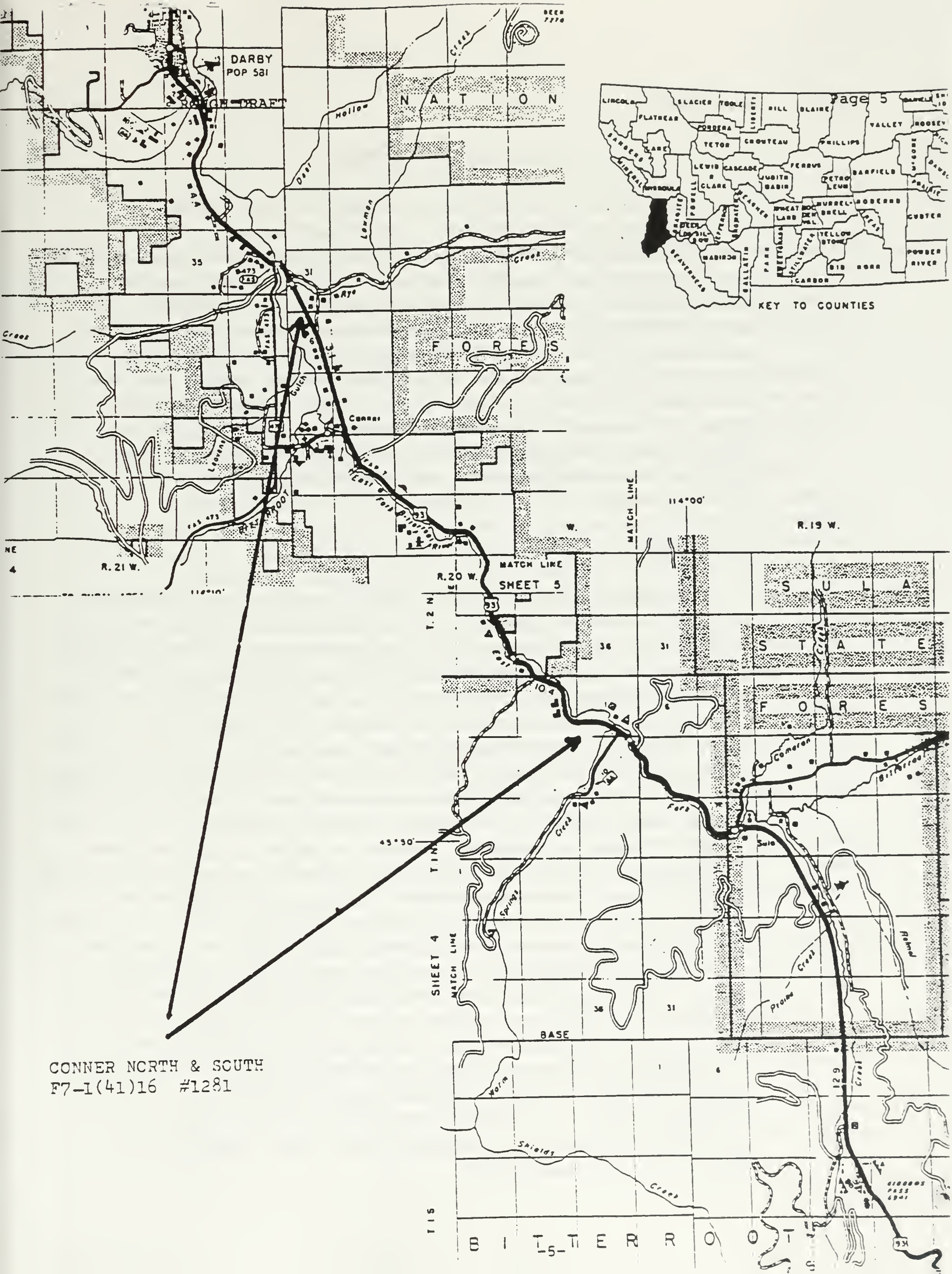
- (Wetlands) Actual loss to wetlands through construction is estimated at .8 acres (.3 hec.) if built on the existing R/W (.7 acres for other alternatives). As this loss is unavoidable and of such limited acreage, it is strongly recommended that it be mitigated by replacement in kind and in proximity. Any enhancements of the former river channel that would yield .8 acres of developed wetlands within the corridor of the project would preserve the biotic diversity afforded presently. Such mitigation would be far more preferable than using 1.0 acre of MDT banking at Lee Metcalf's Otter Pond, some fifty miles distant. Mitigation in kind and in proximity would ensure the continued use of the corridor by waterfowl, especially during the winter months when seeking out these warm-watered sites.

- It is recommended that the height of the culverts, where engaging the wetlands, be neither raised nor lowered from their present positions unless it would further enhance the back-flooding of the sites. This would primarily enhance flood storage potential and wildlife values. This may be feasible for wetland sites 1 and 7, both of which are quite removed from the right-of-way, and it is therefore recommended that they be assessed by MDT hydrologists.

PROJECT AND GENERAL AREA DESCRIPTION

The proposed project is 14.1 kilometers (8.8 mi.) in length and is located in Ravalli County on U.S. Highway 93. From the northern terminus of the project (MP 25.3) then traveling in a southerly direction, the route traverses agrarian area for approximately 3.2 kilometers (2 mi.) before grading into mountainous terrain as it enters the East Fork drainage of the Bitterroot River. Canyon portions are typified by mixed conifer stands and shrublands on moderate to steep slopes. Aside from pasturage, the area receives use from recreational, logging, grazing, and residential interests. The existing alignment currently parallels, and in one instance, crosses the East Fork drainage within the area of the project. (For a detailed area description see Visual Impact Assessment for Conner N. & S.)

The purpose of the project is to provide a wider and safer highway facility through full construction. It is proposed that the present 24 foot top be increased to a 40 foot paved surface by widening and resurfacing. New horizontal alignment will flatten curves where feasible to meet design standards for 55 mph. The new alignment will generally follow the existing right-of-way yet will be projected away from the river to avoid encroachment into environmentally sensitive areas. Exceptions to this occur at the Rocky Knob Restaurant & Motel, Station 193 (MP 17.7), and the Medicine Tree Historical Site, Station 346 (MP 20.5). As the proposed widening could have encroached on this religious and historical site, there are currently five alternatives under consideration within the immediate area of the Medicine Tree. A few of these alternatives have severe biological impacts to the resource and it is due to these proposals that a field survey of this scope was conducted.



CONNER NORTH & SOUTH
F7-1(41)16 #1281

STUDY METHODS

Agency Consultation and Literature Review

Requests for information pertaining to endangered, threatened, and sensitive plant and animal species were sent to the U.S. Fish and Wildlife Service (USFWS), Montana Department of Fish, Wildlife, and Parks (MDFW&P), and to the Montana Natural Heritage Program (MNHP). Additionally, Montana Department of Fish, Wildlife, and Parks and U.S. Forest Service (USFS) biologists familiar with the project area were interviewed (D. Flath, J. Firebaugh, C. Clancy, J. Ormiston, pers. comms.). A review of pertinent literature was conducted, and the Montana Rivers Information System (MDFW&P 1988) was consulted for biological resources present in the corridor of the East Fork of the Bitterroot River.

Field Survey

Between June 5 and July 10, 1992, an in-depth field survey was conducted due to the numerous alternatives proposed in the vicinity of the Medicine Tree Historical Site. The methodology employed was taken from the USFS Northern Region's Bitterroot National Forest "Guide for Elk Habitat Objectives" (April 1978). All surveys were conducted within a 1.6 kilometer (1 mile) wide study corridor which was halved longitudinally by the existing highway's right-of-way. Use by all big game species was surveyed by means of a walking belt transect 1.9 meters (6 ft) in width. Lengths of transects varied from 275 meters (300 yds.) to 1900 meters (2100 yds.) and were determined by changes in utilization patterns, changes in forage/cover types, or shifts in habitat types. Approximately 72 kilometers (45 mi.) of transects were walked within the study corridor. Intensity and season of use for each species was determined. Additional data collected at this time consisted of habitat type, vegetative descriptions, threatened/endangered/rare sightings, raptor nesting territories, browse utilization, human encroachment impacts, etc. All existing and potential wetland areas in and adjacent to the right-of-way were examined on foot. An on-site evaluation of possible aquatics/fisheries impacts from required bridges, gabion walls, re-alignment, etc. was performed with MDFW&P fisheries biologist Chris Clancy on August 17, 1992. A Visual Impact Assessment was conducted and photographs taken of the Medicine Tree Alternatives site as outlined by the Federal Highway Administrations "Visual Impact Assessment for Highway Projects January 1988."

STUDY RESULTS

Terrestrial Resources

General Description. The vegetation in the vicinity of the project reflects the moist mountain climate typically found west of the Continental Divide in the Rocky Mountains. The steep canyon, with soils derived from the granitic Idaho Batholith and associated volcanics, and narrow mountain valleys, with soils derived from alluvium, also affect the forms of native vegetation present.

The predominant dry-site cover type is Ponderosa pine (Appendix A for all scientific genus & species) broken by dry shrubland habitats on these steep, south to southwest facing slopes. These community types are composed of several habitat types as defined by Pfister et. al. (1977). The shrubland sites are occupied by Bitterbrush/Bluebunch wheatgrass and Mountain mahogany/Bluebunch wheatgrass habitat types and are often associated with exposed rock on reaches within 150 elevational meters (app. 500 ft.) of the river bottom. These large brushfields are interspersed with sparsely stocked stands of Ponderosa pine/Bluebunch wheatgrass and Douglas fir/Idaho fescue habitat types and provide excellent winter and spring range for big game.

Moister habitat types occupy the cooler sites in the draws and canyons paying into the East Fork drainage. The dominant overstory is Douglas fir with moderate to old age Ponderosa pine sparsely scattered throughout. Infrequently, young-aged, mixed specied stands of Douglas fir and Ponderosa pine are encountered in which the pine account for as much as 50 to 60 percent of the stocking. Habitat types identified in moister sites, in order of frequency, are Douglas fir/Ninebark, Douglas fir/Snowberry, and Douglas fir/Twinflower. As to dominant shrub species, Ninebark provides a persistent, chest-high ground cover in many of these densely stocked stands and Snowberry is common where Ninebark has not established. Dominant graminoids within canopied habitat types are generally Pinegrass and Elk sedge.

Moist sites provide hiding cover and forested forage for many game species and offer high vegetative diversity of shrubs and forbs. Dry sites yield forested and open forage with little to no security cover, possess limited vegetative diversity yet afford key browses and favorable thermal aspects for wintering game.

There has traditionally been modest grazing of cows and horses within portions of the study corridor. Spotted knapweed, a noxious weed, is well established throughout the study area. Tansy and Canada thistle are the two most common noxious weeds found within the riparian zone.

Within the area of the Conner North & South project exists a wide array of wildlife. Big game species known to occur within a 20 mile radius include mule and white-tailed deer, elk, moose, bighorn sheep, Rocky Mountain goat, black bear and mountain lion. All, with the exception of the mountain goat, can be expected within the study corridor at various times of the year. Areas of critical habitat for some species exist immediately adjacent to the highway project.

East of the river, the open south and southwest facing mountain mahogany/bitterbrush/bunchgrass slopes from the U.S. Highway 93/Conner junction (493) to the southern terminus of the project at Spring Gulch provide excellent winter and early spring range for both deer and bighorn sheep. Pellet group counts, more often than not, revealed high deer use and concentrations were most often linked to the availability of these two key shrubs. This was also the finding of the Montana Department of Fish, Wildlife & Parks (Region 2, Deer and Elk Survey and Inventory Tables, July 1, 1990 - June 30, 1991). Bighorn sheep use, though limited, occurs mainly south of Lawrence Gulch along the east side of the river.

Though these areas described provide adequate winter range they receive little to no use by elk on the same lower reaches. This may be explained by the vast openness of these slopes as they provide no security cover to encourage the wanderings of elk. Additionally, the area lacks the dense stands that would offer some form of thermal cover which is sought out by elk during winter temperature extremes. It is most likely the paucity of these cover types that diminishes the area's attractiveness to elk. Coupled with the topography and the noise disturbance of the highway, there is believed to be little interaction of elk from one side of the highway to the other (Ormiston, pers. comm.).

Areas south and west of the river are predominantly timbered slopes providing forested forage and hiding cover. Small sites of open forage and potential thermal cover also occur. A good portion of this terrain within the study corridor receives three season elk use, summer being the exclusion, and year round deer use. The ridge dividing Spade Creek from Dickson Creek, the ridge dividing Dickson Creek from Blind Draw, and the northern end of the Beam Creek drainage revealed especially high elk and deer use. Winter use of these flatter ridges that provide cover, browse, and natural openings is uncommonly high and of particular importance. The mosaic of dry mountain mahogany/bitterbrush/bunchgrass open forage sites interspersed with dense hiding cover on moderate slopes is apparently a desirable combination to elk. This is corroborated by the Montana Department of Fish, Wildlife & Parks "Aerial Spring Trend Counts" (Region 2, Deer and

Elk Survey and Inventory Tables, July 1, 1990 - June 30, 1991). In a personal communication, John Firebaugh, big game biologist for the MDFW&P, stated that the aerial trend counts have shown these sites to be popular for big game and surmised that the number of elk observed while flying could possibly be greater if flown in winter, during peak use, versus spring.

White-tailed deer use is mostly associated with the riparian bottoms and lower reaches of adjacent slopes. The project area has seen a marked increase in the white-tailed deer population within the last few years. Use by moose was observed, but never found to be greater than 'low' within the study corridor. Gamebirds found in the area include ruffed, Franklins, and blue grouse. Ruffed grouse are found in the moist, dense deciduous riparian cover and adjacent hillsides. Franklins and blue grouse are more often associated with the densely conifered forests of the mountainous areas.

In Latilong 36 (the block of land one degree latitude by one degree longitude in which falls the Conner North & South project), there are currently ten bird species of concern in Montana which are listed as transients or breeding species (Flath, pers. comm.). These are the golden eagle, ferruginous hawk, northern goshawk, peregrine falcon, flammulated owl, boreal owl, northern pygmy owl, great gray owl, Brewer's sparrow, and Le Conte's sparrow.

A wide variety of raptors frequent the study corridor and surrounding areas. Species observed during field work included red-tailed hawk, golden eagle, Cooper's hawk, sharp-shinned hawk, American kestrel, merlin, turkey vulture, and osprey. Rough-legged hawks and bald eagles are common winter residents. A substantial number of both golden and bald eagle sightings occur in the vicinity of the ridge separating Dickson Creek from Blind Draw yet no amount of my searching could detect a nesting territory for either species. This was also the case for osprey with numerous personal sightings along the highway and no nesting structures being located in the canyon.

Furbearers occurring or potentially occurring in the area include bobcat, fisher, muskrat, mink, beaver, lynx, coyote, raccoon, and red fox. Though infrequent, sora rail and painted turtle have been observed in association with the few wetland areas within the project limits.

Dennis Flath (1984) lists all wildlife species considered to be of special interest or concern based on limited species numbers and/or habitat in Montana and for which elimination from Montana could be considered a genetic loss. In Ravalli county, seven species of mammal, one amphibian species, and no reptile are included on the list. The mammal species are fringed myotis, California myotis, hoary marmot, fisher, spotted skunk, lynx, and wolverine. Of these, the fisher, spotted skunk, lynx, hoary marmot and myotis bats could possibly be found near or within the project area. The tailed frog is the only amphibian species of concern within Ravalli county.

Impacts. Impacts to the wildlife resource in the vicinity of the Conner North & South project would be associated with construction and reclamation and would be of short term. They will cause an irretrievable loss of limited amounts of habitat along the immediate right-of-way frequented by birds and small mammals within the riparian vegetation. There will also be a physical loss of individuals of some small mammal, amphibian, reptile, and bird species associated with habitat removal. Other than those associated with wetlands, these losses should not have any significant long term effects on local populations. Within a short time after successful reclamation, affected populations should re-establish to near preconstruction levels. Displacement of wildlife will be caused by noise and activity related to construction. This impact should be short term and essentially affect most species during the period in which these activities take place.

Exceptions to the above discussion are the impacts to wetlands in the corridor and those impacts created by alternate routes proposed in the vicinity of the Medicine Tree Historical Site. With regard to the area of proposed alternatives (MP 19.6, Sta. 300 to MP 21.0, Sta. 370) there exists great potential for significant and irretrievable loss of habitat for many species, most notably that of deer and elk. The ridge separating Dickson Creek from Blind Draw supports uncommonly high elk and deer use as noted earlier. Alternative A, and Alternative B to a much lesser extent, bisect this ridge in a manner that would essentially destroy key habitat. Aside from the physical loss of habitat these two routes necessitate, there is the compounding problem of increased disturbance to a noise sensitive species such as elk with the abandonment of the remaining habitat likely. The proposed road cut in Alternative A is roughly 140 elevational meters (450 ft.) and requires the removal of approximately 17 million cubic yards of soil and rock. No practical mitigation measures exist to counter the eradication of such a large area of key habitat. The loss of habitat applies as well to non-game species as these residents would be displaced or lost with no replacement possible. These problems, coupled with the fact that the ridge provides a unique mosaic of security cover and winter forage that occurs only on two other locations within the entire project area, force the conclusion that Alternative A will adversely impact biological resources in a very significant way. The consequences of this alternative should be considered in light of lesser impacts offered by the remaining alternatives (B, C, D & E).

A major portion of Alternative B's alignment lies along the lower reaches of a 60 to 70 per cent slope some 150 meters (490 ft.) in height. The severity of impacts and feasibility of Alternative B would be determined in large part by the degree of back sloping necessary. The potential for habitat loss is considerable if appreciable cutting of the slope becomes mandatory for safety's sake.

Of the five alternatives, those southwest of the river (Alt. A, B & E) pose the greatest risk of animal/traffic encounters. Of these three alternatives, route E is the least impactive to the majority of terrestrial populations though it is not without its problems. The open fields of the Medicine Tree Ranch are frequently used by foraging white-tailed deer on a year round basis. This creates concern for animal/traffic encounters which might be mitigated, in part, by proper fencing. The increase in highway noise levels will also encroach upon key areas by half again the present distance, raising the concern of elk displacement. However, the physical loss of elk habitat is felt to be less with Alternative E.

Alternatives C and D, designed to use the existing right-of-way, are the least impactive to all terrestrial resources and are the most remote to key use areas. Additionally, there is less interaction of big game with the highway in its present location. This is possibly due to the dissuasion of the river and local residences bordering same. This would not be the case with any west side alternatives. Lastly, there is no loss whatsoever of big game habitat with either Alternative C or D.

It is further recommended that no construction related activities be established adjacent to key elk use areas due to displacement from noise related activities (see Terrestrial Mitigation/Coordination Measures).

Though a few raptor nesting territories were observed on the fringes of the study area, none were of threatened or endangered species and all were remote enough from the highway to preclude any significant impact. There appears to be no construction-related concerns for raptors using the project area at this time with the exception of powerline relocation. This relocation will create no problems for raptors if constructed and raptor-proofed according to Raptor Research Report No. 4 (Raptor Research Foundation 1981). Both during and following construction, it is beneficial for road killed animals to be removed from traffic lanes and shoulders of the highway to assure that these food sources do not entice raptors or other scavengers onto the roadway. This practice is currently being applied by the state's Department of Transportation.

Several species of concern, previously listed, possibly occur within the project area; however, their preferred habitats/residences do not necessarily occur within the immediate construction area. The single amphibian species of concern, the tailed frog, seeks the habitat of colder mountain streams and would likely be found in the feeder tributaries paying into the East Fork of the Bitterroot (Flath, pers. comm.). Proposed construction is not likely to affect the tailed frog. Loss of wetland habitat adjacent to the existing highway will have an adverse effect on painted turtles, sora rail, and some species of waterfowl. These species are discussed under wetland impacts.

Mitigation/Coordination Measures. In that no practical mitigation measures exist to counter the impacts of Alternative A, it is suggested to decision makers that this alternative is not biologically feasible. Furthermore, the feasibility of Alternative B should be questioned if the majority of its adjacent slope requires back sloping. This is recommended in that other alternatives exist which are far more compatible with the resource. The following measures are required to reduce impacts to general biological resources resulting from the proposed action:

- Required: No construction related activities such as staging, batch plant, borrow/gravel source activities, etc. shall be established south and west of the river when adjacent to the few moderate to high elk use areas due to displacement from related noise and activity (Sta. 330 - 360, MP 20.3 - 20.8) levels.
- Required: With the selection of any alternatives located south and west of the river, drift fencing to minimize big game/traffic encounters shall be installed.
- Any powerline relocations made necessary shall be constructed and raptor-proofed in accordance with the Raptor Research Report No. 4 (Raptor Research Foundation 1981). Raptor-proofing is a policy currently being applied by the state's Department of Transportation.

Rare and Sensitive Species. A search of the Montana Natural Heritage Program database revealed two known rare or sensitive plants occurring within the project area (NHP 1992). Most significant is Lemhi beardtongue which is a regional endemic that is threatened. It occurs on low elevation dry sites that are often disturbed. MNHP personnel conducted searches within the corridor on June 29, 1989 and were able to locate two sites of occurrence, one of these being adjacent to the current right-of-way station 367 (MP 20.9) and likely to be impacted. Due to vegetative and reproductive strategies noted in several monitored populations in Ravalli County, MNHP and U.S. Forest Service botanists have suggested that populations of Lemhi beardtongue, a perennial, may occur on a specific site but only be evident in some years (Shelly, pers. comm.).

A site visit was conducted with Steve Shelly, USFS botanist, on August 3, 1992 and the same small colony of seven plants was located near station 367. They occur on the road's cutslope and are within ten meters of the pavement's edge. It's somewhat indefensible biologically to stress avoidance during construction as the plants have established on a disturbed site as it is. In that the species is rated S2-imperiled and doing very poorly in Montana, it is suggested by Shelly that transplanting the remaining plants for future restocking in the same vicinity, following construction, be considered. Another possibility is that of seed collection from the flowered plants observed on August 3 with the goal of propagation and future restocking of the site. The U.S. Forest Service has expressed some interest in the cost sharing of this proposal. Toward that purpose, seeds were collected from these plants on August 4, 1992. The second site of Lemhi beardtongue occurrence is within Robbins Gulch and is 1.6 kilometers (1 mi.) distant from the current highway and not likely to be impacted by proposed construction.

Presence of Dwarf onion, a sensitive species, was observed in May of 1983 in the vicinity of Spring Gulch Campground on a west-facing slope, this being the southern boundary of the Conner N & S project. Location of the colony is on the east side of the river and would likely not be impacted by the proposed construction.

Mitigation/Coordination Measures. The following measures are required to reduce impacts to Lemhi beardtongue should an alternative be selected that would eradicate this remaining colony:

- Mitigation requires the removal of the plants on-site prior to construction, potting and care of these plants through the construction phase, and ultimately restocking the site with surviving plants.
- New plants should be propagated from the seed collected on August 4, 1992. Restocking with these additional plants would compensate for projected mortality of potted plants. An estimate of cost for this mitigation was requested from Bitterroot Native Growers of Corvallis, Montanan. Cost of the mitigation is estimated at $2,497.00 (App. C). The U.S. Forest Service has expressed some interest in a cost-sharing program in return for seed stock of Lemhi beardtongue and this interest is being pursued as well.

Threatened and Endangered Species

Montana has eight animals classified by the U.S. Fish and Wildlife Service as either endangered or threatened. Under Section 7 of the Endangered Species Act, as amended, activities conducted, sponsored, or funded by federal agencies must be reviewed for their effects on species federally listed or proposed for listing as threatened or endangered. The endangered species are the Northern Rocky Mountain wolf, peregrine falcon, whooping crane, bald eagle, black-footed ferret, and Interior least tern. The continental U.S. populations of grizzly bear and piping plover are listed as threatened.

Of these eight species, four are not considered to be endemic to the project area. These are the Interior least tern, piping plover, whooping crane, and black-footed ferret. Under this premise, it is determined that implementation of the proposed action is not likely to adversely affect any of these species. The remaining species are discussed below.

Grizzly Bear

Analysis. The grizzly bear, though historically documented as a past resident of the Bitterroot Range is no longer expected to occur within the area. No documented sightings have been reported since 1956.

Portions of the Bitterroot Forest's wilderness have recently been designated as future recovery areas by the Interagency Grizzly Bear Committee, however, all are very remote from the project area (Ormiston, pers. comm.). There is presently no reason to suspect the presence of the great bear, even as transients, within the area of the project.

Mitigation/Coordination Measures. As no grizzly bear are know to exist within the project area and no significant impacts are anticipated, there are no required mitigation/coordination measures.

Determination of Effects. Based on the above, it is determined that the implementation of the proposed action is not likely to adversely affect the grizzly bear.

Bald Eagle

Analysis. Bald eagles occur in the project area as migrants and winter residents. There are no known nesting territories of bald eagles within 48 kilometers (30 mi) of the project area, nor are any suspected (Flath, pers. comms.).

Although golden eagles are not given protection under the Federal List of Threatened and Endangered Species, they do have protection under the Bald Eagle Protection Act (1940). This Act protects nesting birds from disruption or displacement. Though golden eagles occasionally frequent the corridor, there are no known nesting pairs within the project area. There is, however, a documented nesting territory at the southern terminus of this project and within the limits of MDT's Sula North project.

Mitigation/Coordination Measures. The following measure is required to ensure that impacts to bald and golden eagles are minimized:

- As construction of the Conner North & South project is not anticipated to begin before 1995-1996, it is required that quick inventory/data search be conducted two months prior to the advertising for bids to verify that no eagles have established a territory prior to the start of construction.

Determination of Effects. Based on the above, it is determined that the implementation of the proposed action is not likely to adversely affect bald and golden eagles.

Peregrine Falcon

Analysis. Peregrine falcons are know migrants in the Bitterroot Valley. Recently, they have been successfully hacked from a location near Painted Rocks Reservoir some 25 kilometers (15.6 mi.) to the southwest of the project area. However, no peregrine falcon are known to nest within the project's vicinity (USFWS ltr., App.). Very little, if any, suitable nesting habitat was observed during field study of Conner North & South.

Mitigation/Coordination Measures. As peregrine falcon appear to be making a slow comeback into historical ranges and there exists potential nesting sites within MDT's adjacent project of Sula North, it is stressed that any significant removal of wetlands from the canyon corridor without effective mitigation of replacement in kind and proximity could alter the potential for future nesting pairs of peregrines within the canyon.

Determination of Effects. It is determined that the implementation of the proposed action is not likely to adversely affect the peregrine falcon's future in the corridor with proper wetland mitigation.

Northern Rocky Mountain Wolf

Analysis. Though reports have been collected over the years for both the Sapphire and Bitterroot Ranges, there have been no documented sightings of wolves near the project area. There is presently no reason to suspect that there are any wolves within the study corridor even as transients.

Aquatic Resources

General Description. The project parallels and in one instance crosses the East Fork of the Bitterroot River. The river offers a fairly rich aquatic environment and is a quality fishery receiving moderate to heavy pressure. Numerous small order drainages flow into the East Fork within the project area but only Warm Springs Creek, and possibly Laird Creek, have enough sustained flow to provide habitat for spawning trout (Clancy, pers. comm.). Fish species found within the system are mountain whitefish, rainbow trout, rainbow/cutthroat hybrids, slimy sculpin, bull trout, and the West Slope cutthroat, the latter two being species of concern in Montana. Less common but represented are brook trout, brown trout, and long nose dace.

Impacts. Within the project area there is one highway bridge crossing the river along the current right-of-way (Station 219, MP 18.1). Proposed for this site is a new bridge to be constructed downstream of immediately adjacent to the existing one. Upon completion, the old structure would be removed.

Mitigation/Coordination Measures. The new bridge would be a two-span structure out of necessity and require one support pier within the river channel. The potential to adversely affect the aquatics is dependent upon the design of this piering. There are presently two construction methods being considered by MDT's Bridge Design people (Rutherford. pers. comm.). One involves coffer damming and the pouring of a concrete pier within the Thalweg, or deeper portion of the channel. The footing for this concrete pier is estimated to be 2 meters wide by 10 meters in length and aligns with the river's flow.

The second method employs pipe piering which is accomplished with the placement of several heavy gauge, large diameter pipes to serve as supports. The pipes, with proposed wall thicknesses of one-half inch and approximately 50 centimeters (20 inches) in diameter are augered or driven into the stream channel in lieu of coffer damming. The pipes are then topped off with concrete, completing the pier. Since the pipes are driven in and require no excavation, the impacts from sedimentation are minimized as compared to coffering procedures. Feasibility of pipe piering is dependent upon the amount of woody debris passing downstream and the degree of ice scouring that occurs during break-up. Consulting the hydrology report for the Conner North & South project with Merrill Rutherford (MDT Bridge Design) indicated that neither ice scouring or debris would be a problem on the project.

- In that coffer damming is most likely to adversely affect all aquatics through sedimentation it is strongly recommended that driven pipe be used for any piering needs within the project.

- Many portions of the current right-of-way lie adjacent to the river's channel. Where possible, during widening on an existing alignment, it is recommended that efforts be directed to avoid any further encroachment on the river's edge than is currently present. Thus, any sedimentation resulting from sanding, traffic activities, etc. should be minimized.

On August 17, 1992, an on-site inspection of the reaches affected by the Medicine Tree alternatives was conducted with MDFWP fisheries biologist, Chris Clancy. Primary goal of the inspection was to assess impacts of the various alternatives.

Of the alternatives currently proposed, the cantilevered structure (Alternative C) was believed to have the greatest potential to adversely affect the aquatics. This is due, in part, to the necessity of numerous support piers being placed within the wetline of the channel. Construction of large, coffered footings to support the piers would significantly disturb the system. A secondary problem is that of debris, litter, and sanding materials finding their way into the stream channel from a suspended roadbed.

Alternative D, with its proposed retaining or gabion wall, is also felt to have potential for adverse effects, depending upon the design. If the current channel becomes constricted or should considerable instream construction be necessary, then significant adverse impacts are likely to occur. Estimated length of disturbance from placing a gabion or retaining wall within the wetline is estimated at 200 to 300 meters (600-900 feet) (Flinders, pers. comm.). Degree of disturbance and construction is dependent upon the type of wall chosen.

Other than a low impact retaining wall, it is preferable aquatically to relocate the highway south and west of the river. Construction of bridges, with certain provisions, would most likely have less impact than instream placement of a retaining wall. Substantial widths of high water marks at several of the proposed crossings necessitate two and three span designs. It is again emphasized that piering be accomplished with pipe and that the bridge abutments be placed outside of the mean high water marks. The abutments should not cause a constriction of flow during high water nor should they be placed near the Thalweg.

With the exception of a low impact retaining wall, Alternative E appears least likely to affect the river system. Alternative B has merit provided only that the river channel be changed back to its original course prior to the last major highway construction of 1937. Re-establishment of the channel to its former location, starting at station 310 (MP 20.0), would most likely enhance the system in the long term by reducing stream gradients. This has also been suggested to the Montana Department of Transportation by C. Richard Clough, Regional Supervisor, MDFW&P, in a letter dated January 28, 1992 (App. B).

Alternative A raises concerns for the aquatics and watershed due to the topographical restructuring of such a large parcel of land. Another concern is that of added sedimentation from the vast amount of spoil (17 million cu. meters approx.) to be removed and transported across channel. Both Chris Clancy and Ken Chrest, MDFW&P fisheries, have expressed strong reservations regarding this alternative and its associated impacts.

In summation, sedimentation from construction is the primary aquatic concern and the alternatives least likely to impact are those that have a minimum amount of instream work within the wetline and additionally create no channel constrictions. Should an alternative be chosen that would necessitate coffered piering or cause a narrowing of the channel, it should be required that instream specialists be called in to assess potential impacts.

Wetland Findings

Methods. Wetlands within the project area were delineated in accordance with the 1987 Army Corps of Engineers Manual. The various hydrologic/vegetative types are from Novitsky (1979). A Wetland Site Evaluation Form was completed for each site assessed in compliance with the 1992 Memorandum of Understanding (MDT/MDFWP). Additionally, field narratives and plant lists were compiled for each site (App. D).

Existing Wetlands. A total of seven wetland sites likely to be affected by the proposed construction were assessed during the month of October 1992. Three distinct hydrologic and vegetative types, often interspersed, were found to define the seven sites. Please refer to the Conner North & South Preliminary for Plan-in-Hand for wetland mapping (App. D).

Narrative Descriptions. Each wetland site is briefly described below. They are numbered sequentially starting at the north end of the project. Photos for each site are within Appendix D. Site numbers are shown in each photo. Table 1 lists the number of acres/hectares of each wetlands type that would be affected by the project. Table 2 summarizes the functional values determined for each site and recorded on Wetland Site Evaluation Forms.

Wildlife habitat values are determined by evaluating the utilization by waterfowl/wildlife for nesting, rearing, feeding, loafing, or protective cover in light of the following criteria (MDT/MDFWP 1989):

Rank Criteria

3	Use by the wildlife group is significant in that loss or reduction of the wildlife use would have an adverse effect on the population of the species or wildlife in the general area (township).
2	Use by the wildlife group is evident or probable and loss or reduction of the wildlife use may have an adverse effect on the local wildlife population (surrounding sections).
Rank	Criteria
1	Use by wildlife group is low or incidental in that loss or reduction of the wildlife use would have negligible effect on the local wildlife population.
0	Use by wildlife group is nonexistent at any time during any year.

Evaluation of fisheries utilization follows a parallel ranking system with respect to aquatic habitat.

The overall wetlands value is based on the integration of judgements regarding flood storage potential, food chain support potential, nutrient retention and sediment control potentials, as well as wildlife/fisheries utilization and recreational use potential.

Site 1 is located east of Milepost 22.7 to 22.9 (Sta. 462-472) and is approximately 1.2 acres (.49 hec.). It is situated on abandoned river channel created by the 1937 highway construction and is comprised of hydrologic/vegetative types ID and IIA/B.

Type ID is an area of permanent standing water with rooted emergent vegetation. In this instance, it is .3 acres (.12 hec.) of sedges and cattails. There is also a 1/50th acre piece of open water lacking any vegetation. Closely associated here with type ID are type IIA/B- sites with seasonal or permanent high water tables, but without permanent standing water; and having an herbaceous/shrub community. The permanently inundated area (ID) is fringed by type IIA/B. Dominant herbaceous species include sedges, cattail, field horsetail, and reed canary grass. A peripheral shrub community of several willow species, red-osier dogwood, thin-leaved alder, and black hawthorn is present. Type IIA/B comprises approximately .9 acres (.37 hec.). Ratio of herbaceous (A) to shrub (B) communities is roughly 80/20 respectively.

The wetland, a former river channel, is encircled by riparian habitat. Though the channel is connected to the East Fork of the Bitterroot River during peak run-off by a large culvert at its north end, primary recharge of the site most likely occurs from ground welling in the form of seeps or springs. The area has no fisheries values, but does possess moderate wildlife values especially for waterfowl and neo-tropical birds. The overall wetlands value is 14:24, moderate.

Site 2 is located at milepost 21.4 (Sta. 392) and is .2 acres (.08 hec.). Virtually all of the acreage falls within the new right-of-way (R/W). Sixty percent of the area is type IB- permanent standing water w/rooted submerged. The remaining forty percent is type IIA/B- seasonally inundated w/herbaceous/shrub communities. The ponded area is mostly silt with sparse aquatic vegetation. IIA/B is dominated by sedges, red top, reed canary grass, and willows. Ration of herbaceous (A) to shrub (B) is 95/5 respectively.

Construction of the existing highway converted this former river channel into an isolated basin (Exception to this being a large (30") culvert connection to the East Fork). During peak, high water only does the river backflood this basin. There is a visible current at the southern end of the site. Either ground-welling or underground seepage from an adjacent wetland (WL site 3) immediately southeast recharges the system providing year round inundation. Approximately 40 meters (130 ft.) separates WL site 2 from WL site 3. Neither of these sites forms ice as rapidly as does the river which may indicate a warm water source. This is beneficial to wintering waterfowl that remain in the canyon. The site has traditionally served as a nesting/rearing area for a mallard pair. There is no fisheries resource present. Riparian habitat for this site is minimal and the overall wetland value is 9:24, moderate.

Site 3 lies adjacent to milepost 21.3 (Sta. 386) and is roughly .2 acres (.08 hec.). One-half of the acreage lies within the newly proposed R/W. Sixty per cent is permanently inundated and classed as type IB/D. Silty bottoms with sparse beds of watercress and water carpet are present. The remainder is IIA/B with a 50/50 ratio of herbaceous to shrub. Dominants are sedge, red top, willows, red-osier dogwood and thin-leaved alder. The wetland is further enclosed by shrub/sapling riparian habitat. The site is most likely recharged from ground-welling and has no connection with the river. It may possibly flow underground to WL site 2. There is very little fluctuation of water level at this site.

Wildlife values are primarily for white-tailed deer, neo-tropical birds, small raptors, and waterfowl that use the site as a loafing area to include the winter months. There are no fisheries values. Overall wetland value is 13:24, moderate.

Site 4 is located near milepost 20.8 (Sta. 359) and is approximately .1 acres (.04 hec.). It possesses no permanent standing water and is classed type IIA/B with a herbaceous to shrub ratio of 30/70 respectively. Temporary ponding occurs during peak run-off, but is eventually drained by a culvert into the East Fork. The wetland is unique in that it has a tree canopy of peach-leaved willows. Dominant species, in addition to this willow, include red top grass, timothy grass, sedge, reed canary grass, other willow species and red-osier dogwood. The area, an unnatural basin, created by roading on all three sides is highly impacted. Noxious weeds such as spotted knapweed, burdock, flannel mullen, and Canada thistle are present in adjacent upland areas. The majority of the wetland (90%) lies within the newly proposed R/W. The wetland is inadequately connected by two small (18") culverts to WL site 5 as evidenced by seasonal flooding to the nearby residence.

Due to the level of present encroachment, the only wildlife values felt to exist are for neo-tropical birds and possibly small raptors. There are no fisheries value for the site. Overall wetland value is 7:24, low.

Site 5 is near milepost 20.7 (Sta. 355-360) and is abandoned river channel (1937 highway const.). It is 1.0 acres (.4 hec.) with .2 acres (.08 hec.) to be affected by the proposed construction. The hydrologic/vegetative type of IB accounts for ninety percent of the wetland. This permanent standing water is basically a pond fed by Medicine Tree Creek. It is best described as exposed silt bottom with a sparse aquatic plant community. It eventually discharges through culverts into WL site 4. The area immediately west of the pond is seasonally flooded and is classed type IIA/B. The dominant herbaceous plant is sedge with shrubs of sparse willow, 80/20 percent respectively.

The remaining perimeter of the pond is one of very steep gradients. A narrow band (app. 1-2 meters) of facultative wet forbs and shrubs such as willow, red-osier dogwood, thin-leaved alder, sedge, and red top grass forms the outer wetland edge.

Area primarily benefits waterfowl. Both ducks and geese use the site for loafing in spring and summer. Nesting and rearing has been observed for mallard pairs. Lack of riparian cover adjacent to the wetland detracts from other wildlife values. There is no fishery potential for the site and overall wetland value is 11:24, moderate.

Site 6 is located at milepost 20.2 (Sta. 324) and is a pond (Type IB). It is approximately .2 acres (.08 hec.) in area. It has a depth of 2 plus meters where nearest the highway, tapering to a few inches in depth at its eastern end. It lies on old river channel abandoned during the 1937 highway construction. The site is one in a series of ponds created by dredging and damming by a private owner in the early 1980's. Much of the surrounding area was then cleared and intensively grazed and has yet to recover vegetatively. A few submerged aquatic plants are present in addition to sparse emergents on the pond's edge. The pond's perimeter is a steep gradient of large river cobble and gravel and lacks organic soils. The culvert connection to the East Fork has been terminated.

Very few wildlife values are found due to lack of cover. There is no present fisheries value due to stagnation. Overall wetland value is 4:24, low.

Site 7 is located at milepost 16.6 and is .5 acres (.2 hec.) in area. Only .1 acres (.04 hec.) is likely to be lost to the proposed construction. The site has formed on old river channel formerly abandoned. It is connected by a large (30") culvert to the East Fork of the Bitterroot River and back-floods during peak high water. It may be further recharged by ground-welling.

Roughly twenty percent of the entire wetland was found to be inundated during these low water conditions. Permanently inundated areas are best described as type ID- silty bottoms over river cobble with little to no aquatic plant community. A few sedges have emerged where ponded. The remaining eighty percent of the wetland is type IIA/B. Dominant herbaceous are sedges, red top grass, reed canary grass and field horsetail. Shrubs of willow, red-osier dogwood, thin-leaved alder, and black hawthorn are present. Ratio of herbaceous (A) to shrub (B) is 70/30 respectively.

The area has a natural appearance with little visible encroachment. The wetland lies within riparian habitat and has appreciable wildlife values for waterfowl, white-tailed deer, song birds, and raptors. There are no fisheries values for the site. Overall wetland value is 12:24, moderate.

Table 1. Wetlands Acreage Affected by Project

Wetland Site	Acreage in Study Area	Estimate Acreage to Be Disturbed
1	1.2 (.49 hec.)	.1 (.04 hec.)
2	.2 (.08 hec.)	.2 (.08 hec.)
3	.2 (.08 hec.)	.1 (.04 hec.)
4	.1 (.04 hec.)	.1 (.04 hec.)
5	1.0 (.4 hec.)	.2 (.08 hec.)
6	.2 (.08 hec.)	0
7	.5 (.2 hec.)	.1 (.04 hec.)
TOTAL	3.4 (1.4 hec.)	.8 (.3 hec.)

Table 2. Functional Values Summary for Wetland Sites

			Functional Rating				
Parameter Site	1	2	3	4	5	6	7
Relative Occurrence	3	3	3	3	2	2	2
Habitat Interspersion	2	2	2	1	1	1	2
Cover:Water Ratio	0.5	2.0	2.0	0.5	0.5	0.5	2.0
Inundation Frequency	3	3	3	2	3	3	3
Sediment Control Rating	2	2	2	2	2	1	2
Water Flow Rating Criteria	2	1	2	1	1	1	1
Nutrient Retention Capability	3	1	2	1	2	1	1
Relative Flood Storage Control	2	2	2	1	2	1	2
Food Chain Support Potential	3	2	3	2	2	1	3
Wildlife habitat Value							
Waterfowl	3	3	3	1	3	0	2
Upland Game Birds	1	1	1	1	1	0	1
Song Birds	2	2	2	1	2	0	1
Raptors and other Birds	2	1	1	1	1	0	1
Furbearers	1	1	1	0	1	0	1
Small Mammals	2	1	1	1	1	0	1
Ungulates	1	1	1	1	1	0	1
Large Predators	1	1	1	0	0	0	1
Threatened and Endangered	1	1	1	0	1	0	1
Fisheries Utilization							
Montana Fishes of Spec. Conc.	0	0	NA*	NA	0	0	0
Trout	0	0	NA	NA	0	0	0
Other Salmonids	0	0	NA	NA	0	0	0
Non-Salmonid Game Fish	NA	NA	NA	NA	NA	NA	NA
Non-Game or Rough Fish	NA	NA	NA	NA	NA	NA	NA
Recreational Use Potential	1	1	1	1	1	1	1

Overall Functional WL Value ______:24

Site	1	2	3	4	5	6	7
	14	9	13	7	11	4	12

*NA - not applicable

Impacts to Wetlands. An estimated 3.4 acres (1.4 hectares) of wetlands are likely to be affected by the proposed construction. Of this amount, .8 acres (.3 hec.) are likely to be lost due to widening. Areas of loss occur where the proposed route cannot be directed away from the wetland due to the close proximity of the river on the opposing shoulder. These projected losses have been minimized where possible and are deemed to be unavoidable.

Potential impacts, aside from loss, include sedimentation of waterways and wetlands, petrochemical spills associated with the construction, and alteration of subsurface and surface water flows. Where perennial flows exist, changes in drainage could alter wetland habitat. In the canyon of the East Fork, moderate to steep slopes are underlain by soils derived from weathered granitics and volcanics, which, when disturbed may be very erodible. The potential is high for significant sedimentation to the East Fork due to excavation and filling.

The potential for spreading a wide variety of noxious weed species is high, as robust populations already exist within and adjacent to the highway right-of-way. Impacts to wetlands from the proposed construction are likely to be short-term

Mitigation/Coordination Measures. The removal of riparian vegetation will be kept to the minimum necessary for completion of the project. Stream-banks at crossings of perennial drainages will be stabilized by applying MDT construction practices. All exposed areas will be revegetated according to MDT guidelines. Sedimentation caused during construction will be controlled by applying MDT construction practices for sediment basins and by temporarily stabilizing all exposed soil until revegetation is successful.

An erosion control plan will be submitted to the WQB for approval in compliance with MPDES Regulations (ARM 16.20.1314) on this proposed project. The objective is to minimize erosion of disturbed areas during construction and the post construction phase. Best Management Practices will be used to design an Erosion Control plan using guidelines described in MDT's Highway Construction Standard Erosion Control Workplan.

Many weed species, noxious and otherwise, are established in the area, however, due to the close proximity of wetland habitat to the proposed right-of-way, broad herbicide use is not recommended as a weed control measure. In consideration of the ground water resource, a vigorous hand-pulling program for problem areas is more practicable. Best construction practices will be used to ensure there are no spills of petroleum or other chemical products.

A number of large concrete culverts presently connect several of the wetland sites to the East Fork of the Bitterroot River. As a result of the proposed widening, the culverts will have to either be extended or replaced.

Height and slope of the culverts will be critical for the proper recharging of these wetlands from the river.

- It is strongly recommended that the height of the culverts, where engaging the wetlands, be neither raised nor lowered from their present positions unless it would further enhance the back-flooding of the sites. This would primarily enhance flood storage potential and wildlife values. This may be feasible for wetland sites 1 and 7, both of which are quite removed from the right-of-way, and it is therefore recommended that they be assessed by MDT hydrologists.

Actual loss through construction to wetlands is estimated at .8 acres (.3 hec.).

- As this loss is unavoidable and of such limited acreage, it is strongly recommended that it be mitigated by replacement in kind and in proximity. Any enhancements of the former river channel that would yield .8 acres of developed wetlands within the corridor of the project would preserve the biotic diversity afforded presently. Such mitigation would be far more preferable than using 1.0 acre of MDT banking at Lee Metcalf's Otter Pond, some fifty miles distant. Mitigation in kind and in proximity would ensure the continued use of the corridor by waterfowl, especially during the winter months when seeking out these warm-watered sites.

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APPENDIX A

SPECIES LIST - FLORA

COMMON NAME	GENUS AND SPECIES
Bitterbrush	Purshia tridentata
Black hawthorn	Crataegus douglasii
Bluebunch wheatgrass	Agropyron spicatum
Burdock	Burdock arctium lappa
Canada thistle	Cirsium arvense
Cattail	Typha latifolia
Douglas fir	Pseudotsuga menziesii
Dwarf onion	Allium parsium
Elk sedge	Carex geyeri
Field horsetail	Equisetum arvense
Flannel mullen	Verbascum thapsus
Idaho fescue	Festuca idahoensis
Lemhi beardtongue	Penstemon lemhiensis
Mountain mahogany	Cercocarpus ledifolius
Ninebark	Physocarpus marvaceus
Peach-leaved willow	Salix amygdaloides
Pinegrass	Calamagrostis rubra
Ponderosa pine	Pinus ponderosa
Red top grass	Agrostis alba
Red-osier dogwood	Cornus stolonifera
Reed canary grass	Phalaris arundinacea
Sedge sp.	Carex sp.
Snowberry	Symphoricarpus albus
Spotted knapweed	Centaurea maculosa
Tansy	Tanacetum vulgare
Thin-leaved alder	Alnus incana
Timothy grass	Phleum pratense
Twinflower	Linnea borealis
Water carpet	
Watercress	Rorippa nasturtium aquatica
Willow sp.	Salix sp.

APPENDIX A (cont.)

SPECIES LIST - FAUNA

COMMON NAME	GENUS AND SPECIES
American kestrel	Falco sparvarius
Bald eagle	Haliaeetus leucocephalus
Beaver	Castor canadensis
Black bear	Ursus americanus
Black footed ferret	Mustela nigripes
Blue grouse	Dendragapus obscurus
Bobcat	Lynx rufus
Boreal owl	Aegolius funereus
Brewer's sparrow	Spizella breweri
Brook trout	Salvenlinus fontinalis
Brown trout	Salmo trutta
Bull trout	Salvelinus malma
California myotis	Myotis californicus
Canada goose	Branta canadensis
Cinnamon teal	Anas cyanoptera
Common merganser	Mergus merganser
Cooper's hawk	Accipiter cooperii
Coyote	Canis latrans
Ferruginous hawk	Buteo regalis
Fisher	Martes pennanti
Flammulated owl	Otus flameolus
Franklin's Grouse	Dendragapus canadensis
Fringed myotis	Myotis thysanodes
Golden eagle	Aquila chrysaetos
Great gray owl	Strix nebulosa
Green-winged teal	Anas crecca
Grizzly bear	Ursus horribilis
Hoary marmot	Marmota caligata
Interior least tern	Sterna albifrons
Le Conte's sparrow	Passerherbulus caudacutus
Longnose dace	Rhinichthys cataractae
Lynx	Lynx canadensis
Mallard	Anas platyrhynchos
Merlin	Falco columbarius
Mink	Mustela vison
Moose	Alces alces
Mountain lion	Felis concolor
Mountain whitefish	Prosopium williamsoni

COMMON NAME	GENUS AND SPECIES
Mule deer	Odocoileus hemionus
Muskrat	Ondatra zibethica
Northern goshawk	Accipiter gentilis
Northern pygmy owl	Glaucidium gnoma
Northern Rocky Mountain wolf	Canis lupis
Painted turtle	Chrysemys picta
Peregrine falcon	Falco peregrinus
Prairie rattlesnake	Crotalus viridis
Piping plover	Charadrius melodus
Raccoon	Procyon lotor
Rainbow trout	Oncorhynchus mykiss
Red fox	Vulpes fulva
Redtailed hawk	Buteo jamaicensis
Rocky Mountain elk	Cervus elaphus
Rocky Mountain big horn sheep	Orvis canadensis
Rocky Mountain goat	Oreamnos americana
Rough-legged hawk	Buteo lagopus
Ruffed grouse	Bonasa umbellus
Sharp-shinned hawk	Accipiter striatus
Slimy sculpin	Cottus cognatus
Spotted skunk	Spilogale putorius
Sora rail	Porzana carolina
Tailed frog	Ascaphus truei
Turkey vulture	Cathartes aura
Westslopes cutthroat trout	Salmo clarkii
White-tailed deer	Odocoileus virginianus
Whooping crane	Grus americana
Wolverine	Gulo luscus

RH:Q:ENV:20.gg

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